



THE IMPERIAL ENCYCLOPEDIA AND DICTIONARY

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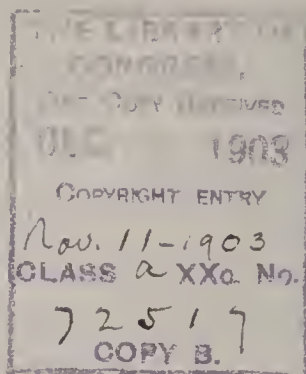
A LIBRARY OF UNIVERSAL
KNOWLEDGE AND AN UN-
ABRIDGED DICTIONARY OF
THE ENGLISH LANGUAGE
UNDER ONE ALPHABET

IN FORTY VOLUMES

VOLUME 10
CORSE—DEBS

NEW YORK HENRY G. ALLEN & COMPANY

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SCHEME OF SOUND SYMBOLS

FOR THE PRONUNCIATION OF WORDS.

Note.—() is the mark dividing words respelt phonetically into syllables; ('), the accent indicating on which syllable or syllables the accent or stress of the voice is to be placed.

Sound-symbols employed in Respelling.	Representing the Sounds as exemplified in the Words.	Words respelt with Sound-symbols and Marks for Pronunciation.
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<i>ā</i> ...	mate, fate, fail, aye.....	<i>māt, fāt, fāl, ā.</i>
<i>ă</i> ...	mat, fat.....	<i>măt, făt.</i>
<i>â</i> ...	far, calm, father.....	<i>fâr, kâm, fâ'thēr.</i>
<i>ă</i> ...	care, fair.....	<i>câr, fâr.</i>
<i>aw</i> ...	fall, laud, law.....	<i>fawl, lawd, law.</i>
<i>ē</i> ...	mete, meat, feet, free.....	<i>mēt, mêt, fêt, frē.</i>
<i>ě</i> ...	met, bed.....	<i>mět, běd.</i>
<i>é</i> ...	her, stir, heard, cur.....	<i>hēr, stēr, hērd, kēr.</i>
<i>î</i> ...	pine, ply, height.....	<i>pîn, plî, hît.</i>
<i>ï</i> ...	pin, nymph, ability.....	<i>pîn; nîmf, â-bîl'î-tî.</i>
<i>ō</i> ...	note, toll, soul.....	<i>nôt, tōl, sōl.</i>
<i>ô</i> ...	not, plot.....	<i>nôt, plôt.</i>
<i>ó</i> ...	move, smooth.....	<i>móv, smóth.</i>
<i>ō</i> ...	Goe the (similar to <i>e</i> in her)...	<i>gô'téh.</i>
<i>ow</i> ...	noun, bough, cow.....	<i>noun, bow, korw.</i>
<i>oy</i> ...	boy, boil.....	<i>boy, boyl.</i>
<i>û</i> ...	pure, dew, few.....	<i>pûr, dû, fû.</i>
<i>ũ</i> ...	bud, come, tough.....	<i>bûd, kûm, tûf.</i>
<i>û</i> ...	full, push, good.....	<i>fûl, pûsh, gûd.</i>
<i>ü</i> ...	French plume, Scotch guid.....	<i>plüm, güd.</i>
<i>ch</i> ...	chair, match.....	<i>chär, mäch.</i>
<i>ch</i> ...	German buch, Heidelberg, Scotch loch (guttural).....	<i>bôch, hî'del-běrçh, löch.</i>
<i>g</i> ...	game, go, gun.....	<i>gām, gō, gŭn.</i>
<i>j</i> ...	judge, gem, gin.....	<i>jŭj, jēm, jîn.</i>
<i>k</i> ...	king, cat, cot, cut.....	<i>kîng, kăt, kôt, kŭt.</i>
<i>s</i> ...	sit, scene, cell, city, cypress.....	<i>sît, sēn, sěl, sît'î, sî'prēs.</i>
<i>sh</i> ...	shun, ambition.....	<i>shŭn, âm-bîsh'ŭn.</i>
<i>ih</i> ...	thing, breath.....	<i>thîng, brêth.</i>
<i>th</i> ...	though, breathe.....	<i>thō, brêth.</i>
<i>z</i> ...	zeal, maze, muse.....	<i>zēl, māz, mŭz.</i>
<i>zh</i> ...	azure, vision.....	<i>ăzh'ēr, vîzh'ŭn.</i>

ABBREVIATIONS USED IN THIS WORK.

a., or adj....adjective	A.U.C.....in the year of the building of the city (Rome)[<i>Annourbis conditæ</i>]
A.B.....Bachelor of Arts	Aug.....August
abbr.....abbreviation, abbreviated	aug.....augmentative
abl. or abla.ablative	Aust.....Austrian
Abp.....Archbishop	A. V.....authorized version [of Bible, 1611]
abt.....about	avoir.....avoidsupois
Acad.....Academy	B.....Boron
acc. or ac..accusative	B.....Britannic
accom.....accommodated, accommodation	b.....born
act.....active	Ba.....Barium
A.D.....in the year of our Lord [<i>Anno Domini</i>]	Bart.....Baronet
Adj. ....Adjutant	Bav.....Bavarian
Adm .....Admiral	bl.; bbl....barrel; barrels
adv. or ad..adverb	B.C.....before Christ
A. F.....Anglo-French	B.C.L.....Bachelor of Civil Law
Ag.....Silver [<i>Argentum</i>]	B.D.....Bachelor of Divinity
agri.....agriculture	bef.....before
A. L.....Anglo-Latin	Belg.....Belgic
Al.....Aluminium	Beng.....Bengali
Ala.....Alabama	Bi.....Bismuth
Alb.....Albanian	biog.....biography, biographical
alg.....algebra	biol.....biology
A.M.....before noon [<i>ante meridiem</i>]	B.L.....Bachelor of Laws
A.M.....Master of Arts	Bohem.....Bohemian
Am.....Amos	bot.....botany, botanical
Amer.....America, -n	Bp.....Bishop
anat.....anatomy, anatomical	Br.....Bromine
anc.....ancient, anciently	Braz.....Brazilian
AN. M.. ....in the year of the world [<i>Anno Mundi</i>]	Bret.....Breton
anon.....anonymous	Brig.....Brigadier
antiqu.....antiquity, antiquities	Brit.....British, Britannica
aor.....aorist, -ic	bro.....brother
app.....appendix	Bulg.....Bulgarian
appar.....apparently	bush.....bushel, bushels
Apr.....April	C.....Carbon
Ar.....Arabic	c.....century
arch.....architecture	Ca.....Calcium
archæol...archæology	Cal.....California
arith.....arithmetic	Camb.....Cambridge
Ark.....Arkansas	Can.....Canada
art.....article	Cant.....Canterbury
artil.....artillery	cap.....capital
AS.....Anglo-Saxon	Capt.....Captain
As.....Arsenic	Card.....Cardinal
Assoc.....Association	carp.....carpentry
asst.....assistant	Cath.....Catholic
astrol....astrology	caus.....causative
astron... ..astronomy	cav.....cavalry
attrib.....attributive	Cd.....Cadmium
atty.....attorney	Ce.....Cerium
at. wt.....atomic weight	Celt.....Celtic
Au.....Gold [<i>Aurum</i>]	cent.....central
	cf.....compare [<i>confer</i>].
	ch or chh...church

ABBREVIATIONS.

Chal.....Chaldee
 chap.....chapter
 chem.....chemistry, chemical
 Chin.....Chinese
 Chron.....Chronicles
 chron.....chronology
 Cl.....Chlorine
 Class.....Classical [= Greek
 and Latin]
 Co.....Cobalt
 Co.....Company
 co....county
 cog.....cognate [with]
 Col.....Colonel
 Col....Colossians
 Coll.....College
 colloq.....colloquial
 Colo.....Colorado
 Com.....Commodore
 com.....commerce, commer-
 cial
 com.....common
 comp.....compare
 comp.....composition, com-
 pound
 compar....comparative
 conch.....conchology
 cong.....congress
 Congl.....Congregational
 conj.....conjunction
 Conn or Ct.Connecticut
 contr.....contraction, con-
 tracted
 Cop.....Coptic
 Cor.....Corinthians
 Corn.....Cornish
 corr.....corresponding
 Cr.....Chromium
 crystal.....crystallography
 Cs.....Cæsium
 ct.....cent
 Ct.or Conn.Connecticut
 Cu.....Copper [*Cuprum*]
 cwt.....a hundred weight
 Cyc.....Cyclopedia
 D.....Didymium
 D. or Dut..Dutch
 d.....died
 d. [l. s. d.]..penny, pence
 Dan.....Daniel
 Dan.....Danish
 dat.....dative
 dau.....daughter
 D. C.....District of Columbia
 D.C.L.....Doctor of Civil [or
 Common] Law
 D.D.....Doctor of Divinity
 Dec.....December
 dec.....declension
 def.....definite, definition
 deg.....degree, degrees
 Del.....Delaware
 del.....delegate, delegates
 dem.....democratic
 dep.....deputy
 dep.....deponent
 dept.....department
 deriv.....derivation, deriva-
 tive
 Deut.....Deuteronomy
 dial.....dialect, dialectal
 diam.....diameter
 Dic.....Dictionary

diff.....different, difference
 dim.....diminutive
 dist....district
 distrib....distributive
 div.....division
 doz.....dozen
 Dr.....Doctor
 dr.....dram, drams
 dram.....dramatic
 Dut. or D..Dutch
 dwt.....pennyweight
 dynam or
 dyn.....dynamics
 E.....Erbium
 E. or e....East, -ern, -ward
 E. or Eng..English
 Eccl.....Ecclesiastes
 eccl. or { ecclesiastical [af-
 eccles.... { fairs]
 ededited, edition, edi-
 tor
 e.g.....for example [*ex*
gratia]
 E. Ind. or { East Indies, East
 E. I. } Indian
 elect.....electricity
 Emp.....Emperor
 Encyc.....Encyclopedia
 Eng. or E..English
 engin.....engineering
 entom...entomology
 env. ext....envoy extraordinary
 ep.....epistle
 Eph.....Ephesians
 Episc.....Episcopal
 eq. or =...equal, equals
 equiv.....equivalent
 esp.....especially
 Est.....Esther
 estab.....established
 Esthon....Esthonian
 etc.....and others like [*et*
cetera]
 Eth.....Ethiopic
 ethnog....ethnography
 ethnol....ethnology
 et seq.....and the following
 [*et sequentia*]
 etym.....etymology
 Eur.....European
 Ex.....Exodus
 exclam....exclamation
 Ezek.....Ezekiel
 Ezr.....Ezra
 F.....Fluorine
 F. or Fahr..Fahrenheit
 f. or fem...feminine
 F. or Fr....French
 fa.....father
 Fahr. or F.Fahrenheit
 far.....farriery
 Fe.....Iron [*Ferrum*]
 Feb.....February
 fem or f. ..feminine
 fig.....figure, figuratively
 Fin.....Finnish
 F.—L.....French from Latin
 Fla.....Florida
 Flem.....Flemish
 for.....foreign
 fort.....fortification
 Fr. or F....French
 fr....from

ABBREVIATIONS.

freq.....frequentative
 FrisFrisian
 ft.....foot, feet
 fut..... future
 G. or Ger...German
 G.....Glucinium
 Ga.....Gallium
 Ga.....Georgia
 Gael.....Gaelic
 GalGalatians
 galgallon
 galv.....galvanism, galvanic
 gard.....gardening
 gen.....gender
 Gen.....General
 GenGenesis
 gen..... genitive
 Geno.....Genoese
 geog .. .geography
 geol.....geology
 geom.....geometry
 Ger.....German, Germany
 Goth.....Gothic
 Gov.....Governor
 govt.....government
 Gr.....Grand, Great
 Gr.....Greek
 gr.....grain, grains
 gramgrammar
 Gr. Brit...Great Britain
 Gris.....Grisons
 gungunnery
 H.....Hegira
 H.....Hydrogen
 h.....hour, hours
 Hab.....Habakkuk
 Hag.....Haggai
 H. B. M....His [or Her] Britan-
 nic Majesty
 Heb.....Hebrew, Hebrews
 her.....heraldry
 herpet.....herpetology
 Hg.....Mercury [*Hydrar-*
 gyrum]
 hhd..... hogshead, hogsheads
 Hind.....Hindustani, Hindu,
 or Hindi
 histhistory, historical
 HonHonorable
 hort.....horticulture
 Hos.....Hosea
 Hung.....Hungarian
 Hydros....Hydrostatics
 I.....Iodine
 I.; Is.....Island ; Islands
 Icel.....Icelandic
 ichth.....ichthyology
 Ida.....Idaho
 i.e.....that is [*id est*]
 Ill.....Illinois
 illus.....illustration
 impera or
 inpr.....imperative
 impers.....impersonal
 impf or imp imperfect
 impf. p. or
 impimperfect participle
 impropr....improperly
 In.....Indium
 in... ..inch, inches
 incept.....inceptive
 IndIndia, Indian
 IndIndiana

ind.....indicative
 indefindefinite
 Indo-Eur...Indo-European
 inf.....infantry
 inf or infin.infinite
 instr.....instrument, -al
 int... ..interest
 intens.....intensive
 interj. or
 int.....interjection
 interrog...interrogative pro-
 noun
 intr. or
 intrans...intransitive
 Io... ..Iowa
 Ir.....Iridium
 Ir.....Irish
 Iran.....Iranian
 irrirregular, -ly
 Is.....Isaiah
 It.....Italian
 Jan.....January
 Jap.....Japanese
 Jas.....James
 Jer.....Jeremiah
 Jn.....John
 Josh.....Joshua
 Jr.....Junior
 JudgJudges
 K.....Potassium [*Kalium*]
 K.....Kings [in Bible]
 K.....king
 Kan.....Kansas
 Kt.....Knight
 Ky.....Kentucky
 L.....Latin
 L.....Lithium
 l. [l. s. d.], } pound, pounds
 or £..... } [sterling]
 La.....Lanthanium
 La.....Louisiana
 Lam.....Lamentations
 Lang.....Languedoc
 lang... ..language
 Lap.....Lapland
 latlatitude
 lb.; llb. or } pound ; pounds
 lbs..... } [weight]
 Let.....Lettish
 LevLeviticus
 LG.....Low German
 L.H.D.....Doctor of Polite Lit-
 erature
 Lieut.....Lieutenant
 LimLimousin
 LinLinnæus, Linnæan
 litliteral.-ly
 lit.....literature
 Lith.....Lithuanian
 lithog.....lithograph, -y
 LL.....Late Latin, Low
 Latin
 LL.D.....Doctor of Laws
 long.....longitude
 Luth.....Lutheran
 M.....Middle
 M.....Monsieur
 m.....mile, miles
 m. or masc.masculine
 M.A.....Master of Arts
 Macc.Maccabees
 mach... ..machinery
 Mag.....Magazine

ABBREVIATIONS.

Maj.....Major	N. A., or
Mal.....Malachi	N. Amer.North America, -n
Mal.....Malay, Malayan	nat.....natural
manuf....manufacturing, manufacturers	naut.....nautical
Mar.....March	nav.....navigation, naval af- fairs
masc or m.masculine	Nb.....Niobium
Mass.....Massachusetts	N. C. or
math. ....mathematics, math- ematical	N. Car...North Carolina
Matt.....Matthew	N. D.....North Dakota
M.D.....Doctor of Medicine	Neb.....Nebraska
MD.....Middle Dutch	neg.....negative
Md.....Maryland	Neh.....Nehemiah
ME.....Middle English, or Old English	N. Eng....New England
Me.....Maine	neut or n...neuter
mech.....mechanics, mechan- ical	Nev.....Nevada
med.....medicine, medical	N.Gr.....New Greek, Modern Greek
mem.....member	N. H .....New Hampshire
mensur...mensuration	NHG.....New High German [German]
Messrs. or	Ni Nickel
MM.....Gentlemen, Sirs	N. J.....New Jersey
metal.....metallurgy	NL .....New Latin, Modern Latin
metaph...metaphysics, meta- physical	N. Mex....New Mexico
meteor....meteorology	N. T., or
Meth.....Methodist	N. Test...New Testament
Mex.....Mexican	N. Y.....New York [State]
Mg.....Magnesium	nom.....nominative
M.Gr.....Middle Greek	Norm. F...Norman French
MHG.....Middle High Ger- man	North. E...Northern English
Mic.....Micah	Norw... Norwegian, Norse
Mich .....Michigan	Nov.....November
mid.....middle [voice]	Num.....Numbers
Milan.....Milanese	numis.....numismatics
mid. L. or } Middle Latin, Me- ML..... } diæval Latin	O.....Ohio
milit. or	O.....Old
mil.... military [affairs]	O.....Oxygen
min .....minute, minutes	Obad.....Obadiah
mineral...mineralogy	obj.....objective
Minn.....Minnesota	obs. or †...obsolete
Min. Plen..Minister Plenipoten- tiary	obsoles....obsolescent
Miss.....Mississippi	O.Bulg....Old Bulgarian or Old Slavic
ML. or } Middle Latin, Me- mid. L... } diæval Latin	Oct.....October
MLG.....Middle Low German.	Odontog...odontography
Mlle.....Mademoiselle	OE.....Old English
Mme.....Madam	OF or
Mn.....Manganese	O. Fr....Old French
Mo.....Missouri	OHG.....Old High German
Mo.....Molybdenum	Ont.....Ontario
mod.....modern	opt... optics, optical
Mont.....Montana	Or.....Oregon
Mr.....Master [Mister]	ord .....order
Mrs.....Mistress [Missis]	ord.... ordnance
MS.; MSS.manuscript; manu- scripts	org.....organic
Mt.....Mount, mountain	orig.....original, -ly
mus.....music	ornith....ornithology
MUS.doc...Doctor of Music	Os.....Osmium
myth.....mythology, mytho- logical	OS. ....Old Saxon
N.....Nitrogen	O. T., or
N. or n....North, -ern, -ward	O. Test...Old Testament
n .....noun	Oxf.....Oxford
n or neut...neuter	oz.....ounce, ounces
Na .....Sodium [<i>Natrium</i>]	P.....Phosphorus
Nah.....Nahum	p.; pp.....page; pages
	p., or part..participle
	Pa. or Penn.Pennsylvania
	paint.....painting
	palæon....palæontology
	parl.....parliament
	pass.....passive

ABBREVIATIONS.

pathol or
 path.....pathology
 Pb.....Lead [*Plumbum*]
 Pd.....Palladium
 Penn or Pa. Pennsylvania
 perf.....perfect
 perh.....perhaps
 Pers.....Persian, Persic
 pers.....person
 persp.....perspective
 pert.....pertaining [to]
 Pet.....Peter
 Pg. or Port. Portuguese
 phar.....pharmacy
 PH.D.....Doctor of Philoso-
 phy
 Phen.....Phenician
 Phil.....Philippians
 Philem.....Philemon
 philol....philology, philologi-
 cal
 philos. { philosophy, philo-
 or phil... } sophical
 phonog.....phonography
 photog.....photography
 phren.....phrenology
 phys.....physics, physical
 physiol....physiology, physi-
 ological
 Pied.....Piedmontese
 Pl.....Plate
 pl. or plu...plural
 Pl. D.....Platt Deutsch
 plupf.....pluperfect
 P.M.....afternoon [*post meri-
 diem*]
 pneum.....pneumatics
 P. O.....Post-office
 poet.....poetical
 Pol.....Polish
 pol. econ...political economy
 polit.....politics, political
 pop.....population
 Port. or Pg. Portuguese
 poss.....possessive
 pp.....pages
 pp.....past participle, per-
 fect participle
 p. pr.....present participle
 Pr. or Prov. Provençal
 pref.....prefix
 prep.....preposition
 Pres.....President
 pres.....present
 Presb.....Presbyterian
 pret.....preterit
 prim.....primitive
 priv.....privative
 prob.....probably, probable
 Prof.....Professor
 pron.....pronoun
 pron.....pronunciation, pro-
 nounced
 prop.....properly
 pros.....prosody
 Prot.....Protestant
 Prov. or Pr. Provençal
 Prov.....Provence
 prov.....province, provincial
 Prov. Eng.. Provincial English
 Prus.....Prussia, -n
 Ps.....Psalm, Psalms
 psychol...psychology

pt.....past tense
 pt.....pint
 Pt.....Platinum
 pub.....published, publisher,
 publication
 pwt.....pennyweight
 Q.....Quebec
 qt.....quart
 qtr.....quarter [weight]
 qu.....query
 q.v.....which see [*quod*
 vide]
 R.....Rhodium
 R.....River
 Rb.....Rubidium
 R. Cath... Roman Catholic
 rec. sec....recording secretary
 Ref.....Reformed
 refl.....reflex
 reg.....regular, -ly
 regt.....regiment
 rel. pro. or
 rel.....relative pronoun
 repr.....representing
 repub.....republican
 Rev.....Revelation
 Rev.....The Reverend
 Rev. V.....Revised Version
 rhet.....rhetoric, -al
 R. I.....Rhode Island
 R. N.....Royal Navy
 Rom.....Roman, Romans
 Rom.....Romanic or Ro-
 mance
 Rom. Cath. { Roman Catholic
 Ch. or R. } Church
 C. Ch.... }
 r.r.....railroad
 Rt. Rev... Right Reverend
 Ru.....Ruthenium
 Russ.....Russian
 r.w.....railway
 S.....Saxon
 S.....Sulphur
 s.....second, seconds
 s. [l. s. d.]..shilling, shillings
 S. or s.....South, -ern, -ward
 S. A. or
 S. Amer..South America, -n
 Sam.....Samaritan
 Sam.....Samuel
 Sans, or
 Skr.....Sanskrit
 Sb.....Antimony [*Stibium*]
 s.c.....understand, supply,
 namely [*scilicet*]
 S. C. or
 S. Car...South Carolina
 Scand.....Scandinavian
 Scot.....Scotland, Scotch
 scr.....scruple, scruples
 Scrip.....Scripture [s], Scrip-
 tural
 sculp.....sculpture
 S. D.....South Dakota
 Se.....Selenium
 sec.....secretary
 sec.....section
 Sem.....Semitic
 Sep.....September
 Serv.....Servian
 Shaks.....Shakespeare
 Si.....Silicon

ABBREVIATIONS.

Sic.....	Sicilian	trigon.....	trigonometry
sing.....	singular	Turk.....	Turkish
sis.....	sister	typog.....	typography, typographical
Skr. or		U.....	Uranium
Sans.....	Sanskrit	ult.....	ultimate, -ly
Slav.....	Slavonic, Slavic	Unit.....	Unitarian
Sn....	Tin [<i>Stannum</i>]	Univ.....	Universalist
Soc.....	Society	Univ.....	University
Song Sol...	Song of Solomon	U. Presb...	United Presbyterian
Sp.....	Spanish	U. S....	United States
sp. gr.....	specific gravity	U. S. A....	United States Army
sq.....	square	U. S. N....	United States Navy
Sr.....	Senior	Ut.....	Utah
Sr.....	Strontium	V.....	Vanadium
....	Saint	v.....	verb
....	street	Va.....	Virginia
stat.....	statute	var.....	variant [word]
s.T.D.....	Doctor of Sacred Theology	var.....	variety of [species]
subj.....	subjunctive	Ven.....	Venerable
suf.....	suffix	Venet.....	Venetian
Su. Goth...	Suo-Gothic	vet.....	veterinary
superl.....	superlative	v. i. or	
Supp.....	Supplement	v. intr....	verb intransitive
Supt.....	Superintendent	vil.....	village
surg.....	surgery, surgical	viz.....	namely, to-wit [<i>vide-licet</i>]
Surv.....	surveying	v. n.....	verb neuter
Sw.....	Swedish	voc.....	vocative
Swab.....	Swabian	vol.....	volume
sym.....	symbol	vols.....	volunteers
syn.....	synonym, -y	Vt.....	Vermont
Syr.....	Syriac, Syrian	v. tr.....	verb transitive
t.....	town	W.....	Tungsten [<i>Wolfram</i>]
Ta.....	Tantalum	W.....	Welsh
Tart.....	Tartar	W. or w....	West, -ern, -ward
Te.....	Tellurium	Wal.....	Walachian
technol...	technology	Wall.....	Walloon
teleg.....	telegraphy	Wash.....	Washington
Tenn.....	Tennessee	Westph....	Westphalia, -n
term.....	termination	W. Ind. }	West Indies, West
terr.....	territory	or W. I... }	Indian
Teut.....	Teutonic	Wis.....	Wisconsin
Tex.....	Texas	wt.....	weight
Th.....	Thorium	W. Va.....	West Virginia
theat.....	theatrical	Wyo.....	Wyoming
theol.....	theology, theological	Y.....	Yttrium
therap.....	therapeutics	yd.....	yard
Thess.....	Thessalonians	yr.....	year
Ti.....	Titanium	Zech.....	Zechariah
Tim.....	Timothy	Zeph.....	Zephaniah
Tit.....	Titus	Zn.....	Zinc
Tl.....	Thallium	zool.....	zoology, zoological
toxicol....	toxicology	Zr.....	Zirconium
tp.....	township		
tr. or trans.	transitive		
transl.....	translation, trans- lated		

See also ABBREVIATIONS: in Vol. I.

THE IMPERIAL CYCLOPEDIA AND DICTIONARY.

CORSE: see under **CORPS**.

CORSE, *kawrs*, **JOHN MURRAY**: military officer: 1835, Apr. 27—1893, Apr. 27; b. Pittsburg, Penn. He graduated at West Point 1857, resigned from the army, and began the study of law in the Albany law-school. He settled in Iowa, and was nominated for lieut. gov. on the democratic ticket. Entering the U. S. service as maj. of the 6th Iowa vols., he served under Frémont, and went through the Corinth campaign and the sieges of Memphis, Vicksburg, and Jackson, being promoted col., and brig. gen. 1863, Aug. 11. He led the assault at Missionary Ridge 1863, Sep., and greatly distinguished himself by his unflinching defense of Allatoona, with its large commissary supplies, which post he held till Sherman sent relief, though C. was attacked by a Confederate force four times as large as his own. He was severely wounded during the defense. C. was brevetted maj. gen. 1864, Oct. 5. After the war he was appointed collector of internal revenue for Chicago, and held the office two years. After four years in Europe, he settled in Winchester, Mass., 1882; and was appointed postmaster of Boston, 1886, but was removed by Pres. Harrison.

CORSELET, or **CORSLET**, *n.*: see under **CORPS**: also **CUIRASS**.

CORSET, *kawr' set* [*F. corset*, diminutive of *cors*, body]: a close-fitting under-garment worn by women, said to have been introduced into France at the time of the revolution of 1789, but to have been invented by the Germans centuries before. It was generally worn in Europe during the middle ages; but with a skirt and sleeves. Bandages were employed among the Roman women for the same purpose as the C., supporting the figure. It is made usually of strong cloth, with whalebone or steel inserted for strength and elasticity, being fastened in front by metal catches, or hooks and eyes, and laced at the back with cord run through eyelet-holes; and is covered with silk or satin, often beautifully embroidered or hand-painted. It has not been uncommon for men to wear corsets, and this was particularly the case in London, when George IV. was Prince of Wales.—In the 15th c. men-at-

CORSICA.

arms among the English, French, and other European soldiery wore the C. (called Corselet) stuffed and quilted, as a protection against offensive weapons: see CUIRASS: CORPS.

CORSICA, *kawr'si-ka*: island in the Mediterranean, separated from the island of Sardinia by the Strait of Bonifacio on the s.; lat. $41^{\circ} 20'$ — 43° n., and long. $8^{\circ} 30'$ — $9^{\circ} 30'$ e.; 3,350 sq. m.; forming the French dept. of Corse, with a population, in 1891, of 288,596. The greater portion of the island is occupied by ranges of rugged mountains, the highest being Monte Rotondo (ancient *Mons Aureus*), 9,068 ft. high, and covered with perpetual snow. There are several rivers in the island, the largest of which, having their source in Monte Rotondo, are the Tavignano (ancient *Rhotanus*) and the Golo (ancient *Tavola*). They flow into the sea on the e. coast; the Golo is navigable for boats. Several small rivers, most of which are dry in summer, flow w. into the sea. The soil is generally fertile in the valleys, yielding all kinds of cereals, and much wine is produced. Olive, orange, fig, almond, and other fruit-trees flourish; fruit forming a considerable item in the exports. But C. is noted chiefly for magnificent forests of oak, pine, chestnut, beech, larch, cork, etc. Many of the pines are upward of 120 ft. high, and are much used for masts in the French navy. The chestnut forests are particularly fine, and the fruit is an important article of food for the inhabitants. Prickly-pear, arbutus, myrtle, etc., abound. Iron, lead, black manganese, antimony, marble, and granite of beautiful quality, are found on the island, but these sources of wealth are not developed. Sheep of a peculiar black breed with four and occasionally six horns, goats, and pigs are numerous, and the rearing of cattle is carried on largely. Tunny, pilchard, and anchovy abound along the coast. C. is divided into the five arrondissements of Ajaccio, Bastia, Calvi, Corte, and Sartene. Ajaccio is the capital. The language spoken in C. is a corrupt Italian. The Corsicans are great *improvisatori*; valor, love of freedom, and desire of revenge are their principal characteristics.

In early times C. was known as *Cyrrnos*, although its native name is said by some historians to have been the same as that which it now bears. As early as B. C. 564, a colony of Phocæans had founded a city on its e. coast. After successive changes of Carthaginian, Roman, Vandal, Greek, and Gothic rulers, it came in the 8th c. into the hands of the Saracens, who held it until the beginning of the 11th c., when it fell under the dominion of Pisa. It afterward passed to the Genoese, who held it till 1755, when the Corsicans under General Paoli made themselves in great part independent. The French, to whom the Genoese surrendered the claims that they themselves could not maintain, captured it 1768; since which time, with slight intermission, it has remained in the possession of France. Pop. (1901) 295,589. **CORSICAN**, a *kawr'si-kan*, pertaining to Corsica.

CORSICANA—CORT.

CORSICANA, *kawr-sĭ-kā'na*: city and co.-seat of Navarro co., Texas; 20 m. w. of Trinity river, 100 m. n.e. of Austin; on the St. Louis Southwestern and the Houston and Texas Central railroads. It is in the cotton and wheat belt of the state, and has State Orphan Asylum, Odd Fellows' Orphan Home Convent, a number of churches, good schools, fine court-house, hotels, 3 national banks with combined capital of \$525,000, machine-shops, a flour-mill, planing-mills, a cotton compress, two oil-mills, ice factories, street-railway, and waterworks. It has 2 daily and 2 weekly newspapers. It was settled 1848. Pop. (1880) 3,373; (1890) 6,285; (1900) 9,313.

CORSNED, n. *körs'něd* [Dan. *korse*, to mark with the sign of the cross: AS. *cors*, a curse; *snæd*, a bit, a morsel; Icel. *snad*, food]: the morsel of the curse or execration; a piece of bread or cheese marked with a cross, used in early times as an ordeal to ascertain whether persons suspected of any crime were guilty or innocent. The C., according to Blackstone, 'was consecrated with a form of exorcism, desiring of the Almighty that it might cause convulsions and paleness, and find no passage, if the man was really guilty, but might turn to health and nourishment if he was innocent.' In this mode of divination, barley-bread appears to have had the preference. It was one of the many forms of ordeal (q.v.).

COR'SO [It. *course* or *running*]: the racing of horses (without riders); also the slow driving in procession of handsome equipages through the principal streets of a town, such as almost always takes place in Italy on festivals. This custom has given a name to many streets in almost all the larger towns of Italy. The best known of these is the C. in Rome, the scene of the celebrated diversions of the Carnival.

CORS'SEN, WILLIAM PAUL: 1820, Jan. 20—1875; b. Bremen: philologist. He was educated in the Joachimsthal Gymnasium in Berlin and in the univ., became a prof. in the Stettin Gymnasium 1844, and was lecturer in the Royal Acad. at Pforta 1846-66. He gained the prize offered by the Royal Prussian Acad. of Sciences 1854 for the best work on the pronunciation and accent of Latin, made a special study of Etruscan remains, published the first vol. on his investigations 1874, and was completing the second at his death.

CORT, *kort*, CORNELIS: 1536-78; b. Hoorn: Dutch engraver. In 1572, he went to Venice, and was hospitably received by Titian. Being less of a painter than of an engraver, he seems very soon to have been employed by the great Venetian colorist for the reproduction in copper-plate of some of his masterpieces; and it appears he did it so well, that he afterward engraved for Tintoretto and other Venetian masters. C. next settled at Rome, where he formed an engraving school, and had among his pupils Agostino Caracci, and from this school sprang the most excellent Italian and Venetian engravers. C.'s works had a favorable influence on the graver's art in the Nether-

CORTÈGE—CORTES.

lands. He died at Rome. His engravings, considering his short life of 42 years, are very numerous, amounting to more than 150.

CORTÈGE, n. *kôr'tāzh* or *kôr'tāj* [F. *cortège*—from It. *corteggio*]: a train of attendants; a procession.

CORTES, n. plu. *kôr'tēz* [Sp.]: Spanish or Portuguese parliament, or assembly of the states, consisting of the nobility, the clergy, and representatives from cities. As one district of Spain after another was recovered by the Christian princes from the Moors, there arose in each a corporation composed of the different 'States' or orders of the population, limiting the power of the princes. From the union of several of these territories were formed the two leading kingdoms of Castile and Aragon, having each its C., representing the clergy, the nobility, and the cities. In Aragon, the C. appointed a judge, *el justicia*, who decided disputes between the king and his subjects, and confined the royal power within constitutional limits. In Castile the rights of the burghers were less extensive than in Aragon, but in both states the king was dependent on the Cortes. After the union of Castile and Aragon under Ferdinand and Isabella, the crown succeeded in making itself less dependent on the C., whose power and privileges were gradually encroached upon, until at last they were seldom assembled except to do homage or to sanction an arrangement as to the succession to the throne. After 1713 they did not meet till 1789 on the accession of Charles IV. In 1809, the C., as composed in 1789, was assembled by the Junta, and framed a new constitution, called the Constitution of 1812, which, however, was set aside at the restoration. Endless attempts at restoration and modification of the Spanish C. have since been made, without any happy result: see SPAIN.

CORTES, *kawr'tēz*, Sp. *kor-tās'*, **HERNAN**: daring conqueror of Mexico: 1485–1547, Dec. 2; b. Medellin, a village of Estremadura, Spain. He was educated for the law, but adopted the profession of arms; and in 1511 distinguished himself under Diego Velasquez in the expedition against Cuba. In 1518, the conquest of Mexico was intrusted to him by Velasquez, who was then gov. of Cuba; but the latter had no sooner granted him the commission than he wished to revoke it, fearful that his dashing and sagacious lieutenant would deprive him of all the glory of the enterprise. C., however, maintained his command in defiance of the governor. Never, perhaps, was an enterprise so great undertaken with so little regard for its difficulties and dangers. A force of between 600 and 700 men, only 13 of whom were musketeers, with only 10 field-pieces and two or three smaller pieces of cannon, were all the means at C.'s disposal to effect the conquest of the then extensive empire of Mexico, when, early in 1519, he landed on its shores. Sailing up the river Tabasco, C. captured the town of that name, the prowess of the Spaniards occasioning great terror to the Tabascans, who made liberal presents to the white men, and volunteered all the information about

Mexico in their power. Arriving off the coast of San Juan de Ulloa, C. was visited by some Mexican chiefs, with whom he entered into negotiation regarding a visit to Montezuma, who then ruled with nearly absolute sway over Mexico. Montezuma sent C. rich presents, but objected to his visiting the capital. But C. had resolved upon seeing the emperor in his palace, and was not to be daunted by opposition. Having founded the town of Vera Cruz, and burnt his ships, so that his troops could not return, and must therefore conquer or perish, C., with a force reduced to 400 Spaniards on foot and 15 horse, but with a considerable number of Indian followers, lent him by dissatisfied chiefs dependent on Montezuma, marched upon the capital. Overcoming the Tlascalans, a brave people, on the way, who afterward became his firm allies, and taking fearful vengeance on the city of Cholula, where, by Montezuma's orders, a treacherous attempt was made to massacre his troops, C. 1519, Nov. 8, reached the city of Mexico with his little band, and was received with great pomp by the emperor in person. The Spaniards were regarded as those descendants of the sun who, according to a current prophecy, were to come from the east and subvert the Aztec empire—a tradition that was worth many soldiers to Cortes. An attack on C.'s colony at Vera Cruz by one of Montezuma's generals, however, proved the mortality of the Spaniards, and would have been the ruin of them but for the decisiveness of C., who immediately seized the emperor, and carrying him to the Spanish quarter, forced him to surrender the offending general and three other chiefs, whom he caused to be burnt in front of the palace, and ere long compelled Montezuma formally to cede his empire to Spain. One has nothing but astonishment for this man, whose daring acts in the capital city of the empire, containing, it is calculated, 300,000 inhabitants, had as a supporting force nothing but 400 Spaniards, and a few thousand Indians, whom he had recently conquered. Meanwhile Velasquez, enraged at C.'s success, sent an army of about 1,000 men, well provided with artillery, to compel his surrender. C. unexpectedly met and overpowered this force, and secured its allegiance. But in his absence the Mexicans had risen in the capital, and C. was finally driven out with much loss. During the disturbance, Montezuma, who was still a prisoner, appeared on a terrace with the view of pacifying his people; but he was wounded by a stone, an indignity against his kingly person which he took so much to heart that he died in a few days. C. now retired to Tlascala, to recruit his fatigued and wounded men; and receiving re-enforcements, he speedily subjugated all Anahuac to the e. of the Mexican valley, and soon marched again on the city of Mexico, which he succeeded in capturing 1521, Aug. 16, after a siege of four months ended by a murderous assault of two days. Famine had assisted the Spanish arms, so that of the vast population only about 40,000 remained when the Spaniards entered the city, which lay in ruins, 'like some huge church-yard with the corpses disinterred and the tombstones

CORTEX—CORTONA.

scattered about.' Mexico was now completely subjugated, for though some attempts at revolt were afterward made, they were soon crushed by C., who had been nominated gov. and capt. gen. of the country by Charles V. In 1528, C. returned to Spain, to meet some calumnies against him, and was received with great distinction. On his return to Mexico 1530, however, he was divested of his civil rank. At his own expense he fitted out several expeditions, one of which discovered California. In 1540, he came again to Spain, but was coldly received at court. See his *Life* by Helps (2 vols. 1871).

CORTEX, n. *kôr'těks* [L. *cortex* or *corticem*, the bark of trees: It. *cortice*]: the bark of a tree; a cover; applied to the outer portion of an organ; also applied to that portion of the kidney which lies between the cones and the surface of the organ. **COR'TICAL**, a. *-tĭ-kāl*, belonging to the bark; consisting of bark. **COR'TICATED**, a. *-kă-těd*, resembling bark; having the bark. **COR'TICIF'EROUS**, a. *-sĭf'ēr-ūs* [L. *fero*, I produce]: producing bark or that which resembles it. **CORTIC'IFER**, n. *-tĭs'ĭ-fēr*, one of the *Corticata*, or backed corals. **CORTIC'IFORM**, a. *-tĭs'ĭ-fawrm* [L. *forma*, shape]: like bark. **COR'TICOSE**, a. *-tĭ-kōs*, or **COR'TICOUS**, *-tĭ-kūs*, full of bark; barky. **CORTICINE**, n. *kôr'tĭ-sĭn*, a floor-cloth, consisting of a mixture of ground cork, sawdust, and oil, spread over a canvas backing and passed between rollers. **CORTICAL LAYER**, in *zool.*, the layer of sarcode inclosing the chyme mass, and surrounded by the cuticle, in the Infusoria. **CORTICOLOUS**, a. *kôr-tĭk'ō-lūs* [L. *cōlo*, I dwell, I abide]: growing on bark.

CORTINA, n. *kôr-tĭ'nă* [L. *cortĭna*, a round vessel, the tripod of Apollo]: in *bot.*, the remains of the veil which continue attached to the edges of the pileus in Agarics. **CORTINATE**, a. *kôr-tĭ-năt*, like cobweb in texture.

CORTLAND, *kōrt'land*: town, cap. of C. co., N. Y., on the Tioughnioga river and the Syracuse Binghamton and New York, the Midland, and the Utica Ithaca and Elmira railroads; 36 m. s. of Syracuse. It has a state normal school, 6 churches, a lecture assoc. and reading room, 3 national banks, 3 weekly newspapers, and a number of manufactories. Pop. (1880) 4,050; (1900) 9,014.

CORTONA, *kôr-tō'nă*: town of central Italy, about 50 m. s.e. of Florence; beautifully situated amid vineyards on a hill rising from the fertile valley of the Chiana, and commanding a view of the lake of Perugia (anc. *lacus Trasimenus*). The city is of fabulous antiquity, older, it is said, than Troy; and the Cyclopean walls, erected by the Pelasgians—which in many parts remain unchanged—prove, if not a history quite as old as tradition affirms, at all events one second in remoteness to few places in Italy. It was one of the most powerful of the 12 cities forming the Etruscan League. By the Romans, who settled a colony here about the time of Sulla, it was called *Corythus*. After many vicissitudes during the middle ages, the town became subject to Florence in the 15th c. Besides the walls, there are several objects of Etruscan antiquity at Cortona.

CORTONA—CORUNA.

Among the principal buildings are the cathedral, dating from the 10th or 11th c., with some fine paintings and monuments, the churches of Jesus, St. Francesco, and others. The Etruscan Acad. has its seat here, the museum connected with which contains a multitude of Etruscan sarcophagi, vases, etc. C. has a trade in wine and olives, and fine marble is found in the vicinity. Pop. abt. 4,000.

CORTONA, *kor-to'ná*, PIETRO BERRETTINIDA: 1596, Nov. 1—1669, May 16; b. Cortona Italy: painter and architect. He studied painting at Rome, was employed by Pope Urban VIII. to decorate a chapel in the church of St. Bibiena and paint the frescoes in the Barberina palace; subsequently executed some remarkable frescoes in the Pitti palace, Florence; and then, settling in Rome, painted with success, restored the church of Santa Maria della Pace, and was architect of several noted buildings.

CORUÑA, *kō-rôn'yá* (English, CORUNNA, *ko-rŭn'na*): province of Spain, in the n.w. part of Galicia; bounded n. and w. by the Atlantic Ocean, e. by the province of Lugo, and s. by that of Pontevedro; 3,078 sq. m. It has an irregular coast line; numerous mountains; fertile valleys; valuable forests; mines of iron, copper, coal, and silver; ship-yards; manufactories of earthenware, hardware, hats, shoes, leather, and rope; and is watered by the Ulla, Tambre, Lezaro, Mandeo, and Mero rivers. The chief cities are C., the capital, Santiago de Compostela, and Ferrol. Pop. (1887) 613,792; (1900) 653,556.

CORUÑA (English, CORUNNA): fortified seaport of Spain, on a small headland in the Atlantic, formed by the three bays of Betanzos, Coruña, and El Ferrol, about midway between Capes Finisterre and Ortegal; lat. 43° 22' n., long. 8° 22' w. C., which is a thriving place, is built partly on the slope and partly at the foot of a hill, and is divided into the upper and lower towns, the former being the most ancient. The lower town, formerly inhabited chiefly by fishermen, is now more important than the upper. It is well built, chiefly of granite, and some of its streets are broad and well paved. There are few public buildings of any note. A citadel defends the town, and the harbor, protected by forts, is safe and commodious. The commerce of C. is considerable, not merely with the Spanish ports, but with England and America. There are manufactures of cigars, soap, starch, and cotton; and sardine fisheries. C. dates its origin from the Phœnicians, from whom it was taken by the Romans B.C. 1st c. For Englishmen, great historical interest attaches to Coruña. Here, in 1386, John of Gaunt landed to claim the crown of Castile in right of his wife, daughter of Pedro the Cruel; in 1554, Philip II. embarked here for England to marry Queen Mary; and in 1588 the great Spanish Armada, which had been refitted at this port, set sail for the conquest of England. But C. is best known in connection with the death of Sir John Moore, who, as a fitting conclusion to his memorable retreat, with about 14,000 men, defeated (1809, Jan. 16) on the heights of Elvina, behind

CORUNDUM—CORVEI.

C., 20,000 French under Soult. Moore, who was mortally wounded in the action, was buried on the ramparts in his military cloak. A monument, erected by the British govt., marks the place of his burial.—Pop. (1900) 43,971.

CORUNDUM, n. *kō-rŭn'dŭm* [Indian name, *korund*]: hardest known mineral except the diamond, consisting of nearly pure alumina, yet of great specific gravity—about four times that of water. Mineralogists regard the sapphire as a variety of C., and with it the gems popularly known as Oriental Ruby, Oriental Topaz, Oriental Emerald, and Oriental Amethyst; but the name C. is usually limited to the coarser varieties, to which it is applied by the natives of India. These, instead of exhibiting the brilliancy of gems, are in general of a dull and muddy appearance, and the crystals—usually six-sided prisms, and six-sided pyramids—are externally dull and rough. The color is various, often green, blue, or red, inclining to gray. The variety called *Adamantine Spar* is of a hair-brown color and adamantine lustre. Some corundums—known as *Asteria Sapphires* or *Star Sapphires*—when cut in a particular manner, exhibit an opalescent star of six rays. C. is found in many parts of the world, and has long been used in India for polishing all gems except the diamond, which is too hard for it, and also for polishing the stones used in temples and other buildings. Emery (q.v.), well known as a polishing substance, is a variety of corundum.

CORUSCATE, v. *kō-rŭs'kāt* [L. *coruscātus*, vibrated, glittered: It. *coruscare*]: to throw off vivid flashes of light; to flash or sparkle. **CORUS'CATING**, imp. **CORUS'CATED**, pp. **CORUSCATION**, n. *kōr'ŭs-kā'shŭn* [F.—L.]: a sudden burst of light in the clouds or atmosphere; a flash; glitter. **CORUSCANT**, a. *kō-rŭs'kant*, gleaming; glittering in flashes; flashing.—**SYN.** of 'coruscate': to gleam; sparkle; glisten; glitter; lighten; radiate; flash; blaze.

CORVE, n. *kawrv*, or **CORF**, n. *kawrf* [Dut. *korf*; Icel. *kærf*, a basket]: a wicker-basket for bringing coals from the working coal-face to the pit-mouth, used on account of its lightness. *Note.*—In the Orkney Islands we have 'cubbie' and 'casie,' round open baskets of straw-work for carrying loads on the back. **CRUIVE**, 'a small circular inclosure,' may also be connected; as also **CORVETTE**, in the general sense of an open vessel.

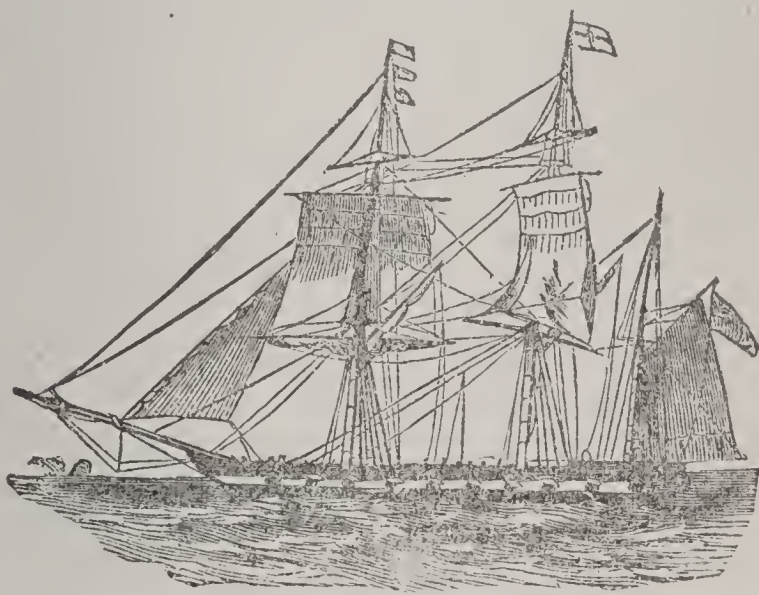
CORVEE, n. *kawr-vē'* [F.—from L.L. *corvada*—from L. *corrogo*, to ask together—from *cor*, *cum*, with; *rogo*, I ask]: an obligation to perform certain services for the feudal lord, such as the maintenance of roads, etc.

CORVEI, *kawr'vī* (*Corbeia nova*): Benedictine abbey on the Weser, near Hörter, oldest and most famous in early Saxony, founded in the beginning of the 9th c. It was a colony from the monastery of the same name in Picardy, then part of the country of the West Franks. It received rich endowments; was the centre of great agricultural improvement and prosperity during the earlier middle ages; and the seat of a school, founded by Ansgar, Apostle of the North, which flourished greatly in the 9th and 10th

CORVETTE—CORVIDÆ.

c., and was next in reputation to Fulda. Its abbots were numbered among the spiritual princes of the German empire. In 1794 it was made a bishopric by Pius VI. Its territory then extended to about 22 sq. m., with 10,000 inhabitants. In 1803 it was annexed to Nassau, from which it was transferred 1807 to Westphalia, and 1815 to Prussia. In 1822 the lands belonging to the ancient abbey passed into the hands of Count Victor Amadeus von Hessen-Rheinfels-Rothenburg, which were formed into a mediate principality of the Germanic empire. The church of the abbey is in the Gothic style, very magnificently adorned in the interior, and contains a multitude of monuments of successive dynasties. The library and archives of the cloister, which contained most valuable records of the early ages of German history, all have been destroyed—the authenticity of the *Chronicon Corbejense*, an alleged record of this abbey from its foundation to the end of the 12th c., being doubtful.

CORVETTE, n. *kor-vèt'*, or **CORVET**, n. *kawr'vèt* [F. *corvette*—from Sp. *corveta* a leap, a curvet: comp. Gael. *caròh*,



Corvette (20 guns).

a ship (see **CORVE**)]: originally a little ship; a sloop of war; a war-ship, flush decked, ship rigged, but without quarter-deck, carrying not more than 20 guns, all in one tier.

CORVIDÆ, *kawr'vī-dē*: family of birds of the ord. *Insessores*, tribe *Conirostres*, having a strong bill, compressed toward the point, and covered at the base with stiff, bristly feathers, which advance so far as to conceal the nostrils. The plumage is dense, soft, and lustrous, generally dark, but sometimes of gay colors, particularly in the tropical species. The birds of this family are widely diffused over the world. They are generally birds of strong and rapid flight; some are solitary, some gregarious in their habits; some reside in woods, some in moors and wastes, some on seacoasts, etc. They are omnivorous. They are remarkable for intelligence, prying curiosity, and a disposition to pilfer and secret glittering articles. Besides the crows, raven, rook, and jackdaw, which be-

CORVINE—CORYMB.

long to the genus *Corvus*, the magpie, jay, chough, and nut-cracker are included among the C. of Britain.

CORVINE, a. *kōr'vīn* [L. *corvus*, a crow]: pertaining to the crow or crow kind.

CORVINUS, **MATTHIAS**: see **MATTHIAS CORVINUS**.

CORVO, *kawr'vō*: most northerly of the Azores, smallest inhabited island of the group. It measures only 6 m. by 3, the lat. of its s. point being 39° 42' n. It is of volcanic origin, and has, in an exhausted crater, a small lake 1,277 ft. above the sea. With a fertile soil and a delicious climate, C. has a pop., generally poor, of barely 1,000.

CORWEN: town in N. Wales, in the n.e. of Merionethshire, on the right bank of the Dee, 10 m. w. of Llangollen. It is sheltered by a rock at the foot of the Berwyn mountains. Here the Welsh under Owen Gwynedd defeated Henry II., and afterward under Owen Glyndwr defeated Henry IV. Pop. of parish abt. 3,000.

CORWIN, *kawr'wīn*, **THOMAS**: 1794, July 29—1865, Dec. 18; b. Bourbon co., Ky.: statesman. He was brought up on a farm; entered the clerk's office of Warren co., 1814; studied law and was admitted to the bar 1818, May; was elected to the legislature 1822; supported Henry Clay for pres. 1824, and John Quincy Adams 1828; was elected to congress 1830, gov. of Ohio as a whig 1840, and U. S. senator 1845; was sec. of the U. S. treas. dept. 1850, July—1853, Mar. 4; resumed practice of law at Lebanon, Ohio; was member of congress 1858—1861, and was then appointed U. S. minister to Mexico, where he remained until the arrival of Maximilian, 1864, June. Subsequently he practiced law in Washington, where he died. He was a brilliant orator at great political meetings.

CORYBANT, n. *kōr'ī-bānt* [Gr. *korubas*, a corybant; *koruban'tēs*, corybants—from *korus*, a helmet]: in *anc. myth.*, a priest of Cybele in Phrygia, whose rites partly consisted in wild armed dances and noisy music: in their insane excitement they were supposed to be possessed by spirits. **COR'YBAN'TIC**, a. *-bān'tīk*, wildly excited, like the corybants engaged in their rites.

CORYD'ALIS: see **FUMARIACEÆ**.

CORYGAUM, *ko-rī-gaum'*: insignificant village 16 m. n.e. of Poona, in the presidency of Bombay; historically interesting in connection with the final subjugation of the Peishwa of the Mahrattas. In 1818, Jan. 1, it was defended for nine hours by a mere handful of men under Capt. Staunton against a native force numbering at least 3,000 infantry and about 20,000 cavalry, the struggle terminating in the repulse of the assailants after terrible slaughter.

CORYLA'CEÆ: see **CUPULIFERÆ**.

CORYLOPHUS, n. *kōr-īl'of-ūs* [Gr. *korus*, a helmet; *lophos*, the back of the neck; a crest]: genus of beetles, the typical one of the family *Corylophidæ*.

COR'YLUS: see **HAZEL**.

CORYMB, n. *kōr'īm* [Gr. *korumbos*, the top, a cluster:

CORYMBUS—CORYTHAIX.

L. corym'bus, a cluster]: in *bot.*, very common form of *indefinite* and *centripetal* inflorescence, in which the flowers are arranged as in a raceme (q.v.), but the lower flower-stalks are elongated so as to bring the flowers almost to the level of those of the upper, as in the elder. CORYMBIATED, n. *kõr-ĩm'bĩ ā-těd*, garnished with berries or blossoms in clusters. CORYMBIFERÆ: see COMPOSITÆ. COR'YMBIFEROUS, a. *-b'f'ēr-ūs* [L. *fero*, I carry]: bearing a cluster of flowers in the form of a corymb. COR'YMBOSE, a. *-bōs*, approaching the form of a corymb either in the branches or the inflorescence.

CORYMBUS, *ko-rĩm'būs*: particular mode of dressing the hair among the Greeks, with which the statues of Venus have rendered us familiar. The hair was often covered with a sort of open ornamental work.

CORYNOCARPUS, n. *kõr-ĩn-o-kar'pus* [Gr. *korunē*, a club; *karpos*, fruit]: genus of trees, ord. *Myrsinaceæ*; natives of New Zealand, where the fruits of *Corynocarpus vulgaris* are used for food in times of scarcity, but the seeds, unless steamed and otherwise treated, are poisonous.

COR'YPHA: see FAN PALM: GEBANG PALM: TALIPAT PALM.

CORYPHENE, *kõr'ĩ-fēn* (*Coryphæna*): genus of fishes of the family *Scomberidæ*, to which the name DOLPHIN, properly belonging to a genus of *Cetacea*, has by some mistake been popularly transferred. The coryphenes are remarkable for the beauty and metallic brilliancy of their colors, which delight the spectator as they are seen gliding with extreme rapidity near the surface of the water, gleaming in the light of the sun; and the changes of which, as they lie dying on the shore or on the deck of a vessel, have acquired poetic celebrity. They have an elongated compressed body, covered with small scales, the head rising in a sharp crest, the mouth large. They are natives of the seas of warm climates, and some species are found in the Mediterranean, among which is *C. hippuris*, the largest known, attaining a length of five ft. This and some of the other species are often seen playing around ships; and great interest is occasionally awakened by their pursuit of shoals of flying-fish. In this chase, a C. may be seen to dart completely out of the water, making a leap of ten yards or more. Capt. Basil Hall likens the velocity to that of a cannon-ball. The C. is often caught by sailors, with a glittering bit of metal instead of a bait.

CORYPHEUS, n. *kõr'ĩ-fě'ūs* [L. *coryphæus*—from Gr. *koruphai'ōs*, standing at the head: F. *coryphée*]: leader of the chorus in ancient Greece. The name now denotes one of the highest distinction in any art or science. In the Italian opera the choir-leader is called the *corifèo*; in French, *coryphée*.

CORYTHAIX, n. *kõr-ĩ-thā'iks* [Gr. *koruthaix*, a hemlet shaking with waving plume—from *korus*, a helmet; *aissō*, I move quickly]: genus of birds, family *Musophagidæ*. It contains the Touracos (q.v.). They are African birds with a

CORYZA—COSENZA.

green body, and the quill feathers of the wings and tail violet or red: see PLANTAIN-EATER.

CORYZA, n. *kō-rī'zǎ* [Gr. *korūza*, mucus of the nose]: an inflammatory affection of the mucous membrane lining the nose, resulting in an increased defluxion of mucus. See CATARRH.

COS, *kōs* (more anciently, Meropis): island of the Grecian archipelago belonging to Asiatic Turkey. Its modern name is Stanko or Stanchio. C. has a length of 23 m., with a breadth of 5. Half of the inhabitants are Greeks; the other half Turks and Jews, who congregate in the towns. On the e. side of the island a range of hills extends along the coast, from Cape Fonka on the n. to Point Korkilo on the s.; but with this exception, C. consists mostly of delightful and fertile plains, which are well cultivated. South of these plains, on which stands the principal town, of the same name as the island, rises a high mountain range, which, from its jagged summit, is called Mount Prion—the 'sawing' mount, or sierra. There are many mineral springs on the island. The exports are principally raisins, lemon, salt, and grain. They amount annually to about \$250,000. The chief imports are oil, soap, butter, butcher-meat, and English manufactures. The climate in general is healthful. Many ancient Greek remains are scattered over the island. The chief town, Comopolis or Cos, is situated on the n. e. coast, on the ruins of the ancient city of the same name; and in the centre of the chief street is a gigantic palm-tree, said to have stood there before the Christian era. To the n. w. is an old fortress of the knights of St. John. The harbor is small, with only about 6 ft. of water. The inhabitants are employed chiefly in agriculture. Modern Greek is the language spoken. In early times, C. was sacred to the worship of Æsculapius. It was the birthplace of Ptolemy Philadelphus, of the painter Apelles, and the physician Hippocrates. Pop. c. the island, 20,000-30,000.

COSCINOMANCY, *kos-sīn'o mǎn-sī*: species of divination practiced from the earliest times by means of a sieve [Gr. *koskinon*] and a pair of shears or forceps. It appears to have been employed chiefly for the discovery of thieves. The sieve was supported or suspended by means of the shears, in some way not easily understood; a certain mystical form of words was then used, and the names of the suspected persons being mentioned in succession, at the name of the thief the sieve moved or turned round.

COSECANT, n. *kō-sē'kǎnt* [L. *co*, for *complement*, and *secan'tem*, cutting]: **CO'SINE**, n. *-sīn* [L. *con*, *sinus*, a curve]: **COTAN'GENT**, n. *-tān'jēnt* [L. *tangen'tem*, touching]: terms in *trig.* denoting functions of angles expressed by the ratios of the sides of right-angled triangles in which these angles occur. *Note.*—These terms are *literally* the *complement-secant*, etc., that is, the secant, sine, etc., of the complement of a given angle—i.e., of the difference between it and a right angle: see SECANT, etc.: also TRIGONOMETRY.

COSENZA, *kō-sēn'zǎ* (formerly CALABRIA CITRA): pro-

COSENZA—COSMO DE' MEDICI.

vince in Calabria, s. Italy, comprising 3,000 sq. m. between the Mediterranean and the Gulf of Tarento. Silk is produced; the vine, the olive, and fruits are raised. C. is traversed by the Apennines. Pop. (1901) 465,267.

COSENZA: town of Italy, cap. of the province of C., about lat. 39° 20' n., long. 16° 15' e. It is 12 m. e. of the Mediterranean, in a mountain-inclosed valley at the confluence of the Crati and the Busento, the waters dividing the town into two parts. The lower town is much affected by malaria arising from the river marshes, but the upper town is in a good degree healthful. It is the residence of the principal families, and contains some handsome buildings, including a cathedral, and an unusually fine courthouse. The streets generally are narrow and crooked. C. has considerable industry, principal manufactures being silk, earthen-ware, and cutlery. Anciently, C., called *Consentia*, was a city of the Brutii. It was captured by the Carthaginian general, Himilco, and was forced to surrender (B.C. 204) to the Romans, who afterward colonized it. Alaric the Goth died here, A.D. 410, and is buried in the bed of the Busento. Pop. (1901) 21,545.

COSEY: see Cozy.

COSMAS, *kos'mas*, surnamed *Indicopleustes*: merchant of Alexandria, middle of the 6th c., who, having travelled much, returned to Egypt, where he spent the evening of his days in monastic retirement, and wrote a 'Christian Topography' in 12 vols., in Greek, containing much information about many countries, particularly about India. An attempt to reconcile everything to his notions of the meaning of the Bible has led him into many errors. The work (which, among other things, gives the first account of the *Monumentum Adulitanum*, see ADULE) has been edited by Montfaucon in the *Nova Collectio Patrum Græcorum*, vol. ii. (Par. 1707). C. wrote also a description of the plants and animals of India, published by Thevenot in his *Relations de Divers Voyages Curieux*, vol. i. (Par. 1666.)

COSMETIC, n. *kōz-mēt' ik* [F. *cosmétique*—from Gr. *kos-mētikos*, skilled in adorning—from *kosmos*, order, ornament]: any preparation that renders the skin soft, pure, and white; a preparation which helps to beautify the complexion or the hair: ADJ. that promotes beauty. **COSMETICALLY**, ad. *-kāl' lī*. Several cosmetics in use are comparatively harmless, such as perfumed starch and chalk; while others, such as *pearl white* (the subnitrate of bismuth), are more or less poisonous. The use of even the best is not to be commended, as the minute particles tend to fill up and clog the pores of the skin, and prevent the free passage of gases and vapors, which is essential to the preservation of any animal organ in thorough health.

COSMIC, a. *kōz'mik*, or **COSMICAL**, a. *-mī-kāl* [F. *cosmique*, cosmical—from Gr. *kosmos*, order, the world]: relating to the universe and all visible nature; in *astron.*, rising or setting with the sun. **COSMICALLY**, ad. *-lī*.

COSMO DE' MEDICI: see MEDICI.

COSMOGONY.

COSMOGONY, n. *kōz-mōg'ō-nī* [Gr. *kosmogōniā*, origin of the world, creation—from *kosmos*, the world: *gonē*, generation or origin: F. *cosmogonie*]: science (or rather speculation) concerning the origin or creation of the world or universe; used sometimes in same sense as **COSMOLOGY**. **COSMOGONIST**, n. one who treats of the origin or formation of the universe. *Cosmogony* is distinguished from *cosmography*, which is the science of the parts of the universe as we behold it (a science embodied in the work of Humboldt, entitled *Cosmos*), and properly from *cosmology*, which reasons on the actual and permanent state of the world as it is. *Geogony*, which confines itself to the formation of the earth, and *speculative geology*, are but subdivisions of cosmogony; while *geology* proper unfolds the history of the globe from facts and observation.

Cosmogonists proper may be divided into two classes—the Theistical, and the Pantheistical. According to Theistic cosmogony, the world of matter and order came into existence at the Omnic fiat. The chief speculations from this point of view, have of late been regarding the *date*, if the expression may be used, of the world's formation, and, looking to the facts of geology and astronomy, the precise condition of the cosmos when divinely evoked at the beginning; how much, in short, of its present structure is attributable to the operation of secondary causes by evolution since the primal date. The Pantheists, on the other hand, hold the universe to be the very body and being of Deity, and as such to have been from all eternity. God is all things, and all things are God—a conclusion reached from mere *à priori* reasoning, and that seems to exclude all further inquiry.

Men of science, in modern times, inclining to stop short of an actual C. or genesis of the world, have pushed their inquiries into the order of development of its present state, which they, or at least some of them, aver to have taken place from the first by the divine power exercised in the manner of natural law. They assume the existence of matter; and with them there is no proper beginning of things, but an eternal round, under fixed laws of growth and decay.

In cosmogonical speculations, heat, air, atoms with rotatory motions, numbers—all in turn have had the honor of being recognized as the fountain and causes of things. Latterly, there has been a tendency to dynamical hypotheses which involve a recognition of *force* as the earliest cause with which physical science can deal, not only of the formation of our own rotating globe, but of the solar system, and of all similar systems in space. Of these hypotheses, the chief is that of Laplace, founded on observation of the mutual relations of the planets, their common direction in rotation and revolution, their general conformity to one plane, etc.; taken in connection with such facts as the rings of Saturn and the fundamental unity of the asteroids. Thus arose the Nebular Theory (q.v.), which at one time had a support from Sir William Herschel's observations on the *nebulae*; of which, however, the

discoveries by Lord Rosse's telescope in a great measure deprived it. Following up this view of a formation of the globes by natural causes, there have been speculations, characterized some by caution, and some by exceeding audacity, as to the commencement and progress of organic life upon them by similar means, especially those of Darwin, which have tended to change the whole face of biological research and theory (see SPECIES: also DARWINIAN THEORY: SPENCER). For the cosmogonies of the various nations, philosophies, and religions, see ARISTOTLE: PANTHEISM: MATERIALISM: THEOGONY: EPICURUS: SPINOZA: HEGEL: SCANDINAVIAN MYTHOLOGY: GREEK RELIGION: etc., and the various titles of Indian speculations.

BIBLICAL COSMOGONY.—The book of Genesis contains an account of the creation of the worlds which is in striking contrast with the views maintained by the wisest men of ancient times. In comparing it, on the other hand, with the discoveries and theories of modern science two things, especially, must be kept in mind. 1. The extreme conciseness of the Bible account. If it contain correspondences with the facts of creation as scientifically stated, they must be sought for in brief expressions. For the whole narrative has manifestly been constructed on a very minute scale. 2. The students of Scripture as God's word, and of creation as His work, have attained, as yet, only an imperfect knowledge of their respective themes. The greatest of them are the readiest to confess that they know comparatively little. If, therefore, there be apparent contradictions between the works and the word, they may arise from our incomplete knowledge of the one, or the other, or of both.

Whatever degrees of harmony may hereafter be discovered in matters of detail, there are now wonderful agreements respecting the grand outline and order of the work, as they have been hidden for centuries in the concise narrative, and for ages in the vast universe.

1. The Bible narrative affirms that the *matter* of the universe had a beginning through the creating power of an intelligent, personal God. The word translated 'created,' *bara*, is employed in Scripture to denote works of God only; and in this opening narrative is applied *first*, to the first great epoch of His work, viz., the *origin of matter*. With this Bible declaration that the universe had a beginning the modern science of geology (as best understood) agrees. 'Man, fishes, plants, all had, according to geological history, their beginning; so, also, mountains, rivers, rocks. And so, also, the earth. If this be true of one sphere in space, we may rightly take another step and assert that the universe had its beginning.' *Dana*. When the beginning was, the Bible narrative does not declare. It fixes no starting point in any period of the past however remote. Yet other parts of the Bible open vast vistas in the history of the creation. They say, 'From generation to generation;' 'from eternity to eternity;' 'all the eternities.' Therefore whatever periods of time modern science may discern in the history of the earth and heavens,

it can never transcend the time spaces which the Bible employs. The term translated 'earth,' as first employed appears to denote *the matter of the universe*. It is afterward given in a restricted sense to 'the dry land' of our world. Why one name should be chosen for both is not intimated in the narrative; for the Hebrew word comes, we are told, from an uncertain root. Its original meaning, therefore, is not known. But by the recent scientific discovery, made through the spectroscope, that the earth and other planets, the sun, and the stars, all contain similar kinds of matter, the identity of name, given to the whole and to a part, is explained.

2. Matter, when first created, is said in the narrative to have been 'without form' and 'void.' Many men, of high scientific attainments, believe that of the three conditions in which matter exists, the solid, liquid, and gaseous, the last must have been the primitive form. If this be true, and if the various properties which matter now possesses were imparted to it by the will of God, then how could its primitive condition be more accurately expressed than by the two brief terms which the narrative in Genesis employs?

3. It is now known that the earth, the moon, the planets, the sun, the most distant stars are revolving on their axes, around their respective primaries, and all around some unknown centre with various velocities, the swiftest of which are almost inconceivable. These motions (scientific men believe) must have been imparted at the beginning and by one impulsive force. And in the Bible narrative one little word declares that, after the creation of matter *revolving motion was communicated to it*. The root of the word translated 'the deep,' *te-hôm* denotes *revolving motion*; and the form of the noun implies that the motion was communicated to the mass. The root, retaining its signification, has found its way into the English language; and its sound is heard in the *hum* of an insect, the spinning of a top, and the whirring of machinery. While, therefore, the profoundest exercise of the human mind affirms motion to be the first grand effect of force as exerted in the universe, a similar affirmation is lodged in the derivation and structure of one little word placed at the beginning of the Bible narrative. Here is an agreement between ancient scripture and modern science which surely calls for more attention than it seems, hitherto, to have received. Professor Guyot in his book, *Creation* (thoroughly conversant, as he was, with the facts and theories of science) assumes that motion was imparted to the mass *after* the point indicated by the word *te-hôm*. He says, 'And the Spirit of God moved upon the face of that vast, inert, gaseous mass, *ready to impart to it motion*, and to direct all its subsequent activity.' He would have been warranted, we think, by the Scripture narrative to say, 'The Spirit of God, *having imparted to it motion*, was ready to direct all its subsequent activity.'

4. In the narrative light is declared to have been called into existence after the communication of motion. In

harmony with this, common observation, as well as scientific research, shows that revolving motion tends inevitably to produce heat and light. God, it is written, caused a separation between the light and the darkness. And men, in their study of the universe, find multitudinous centres of light separated by vast spaces of darkness. The light God called *day*. This one day has, in the narrative, nothing to restrict or measure it except the continued prevalence of cosmical light. Therefore if modern science has discovered or believes that the first day was a myriad ages long, the Scripture narrative is expansive enough to admit them all. And this remark may be made, once for all, with reference to all the creative days.

5. In the second of those days 'the expanse' was formed which God called *Heaven*. This term well describes the atmosphere, and may be extended also to the vast expanse which other parts of Scripture call 'the heaven of heavens.' In this period the great work of separation which had commenced with the beginning of light was continued. So scientific theory says, 'The vast primitive nebula broke up into masses, and these were concentrated into suns, planets, and stars.'

6. During the third period two great works were carried forward: 1. The gathering together of the waters of the world into seas, and the formation of the dry land. This brief sentence contains an outline of the science of geology. 2. The introduction and organization of vegetable life. This was before the sun could have been seen in its place, the earth itself containing an abundance of light and heat. 'Here the system of plants is described in outline, as it has been developed in the succession of ages.' *Guyot*.

7. During the fourth period, the sun, moon, and stars (the formation of which had been commenced, as modern science believes, at the beginning) became visible in the heavens, the original light of the earth having gradually declined.

8. The fifth period relates the introduction of *animal life* into the world. Here the second use of the term *bārā*, 'created,' occurs, to mark the second great epoch in God's work, viz., the gift of animal life. The water animals were created first, comprising especially marine monsters and birds.

9. During the sixth period as well as the third, a double work was advanced: 1. The extension of animal life to the land; and, 2. The creation of *man*. For this last the term *bārā*, 'created,' is used the third time to signalize the imparting of spiritual life. 'God created man in his image.'

10. The six periods of creative and formative work were followed, according to the narrative, by a period of rest, which, it is implied, still continues. And, as this is declared at the beginning of Scripture, so the close promises a resuming of the work. (Rev. xxi., 5): 'He that sitteth on the Throne said, Behold, I make all things new.'

COSMOGRAPHY—COSMORAMA.

COSMOGRAPHY, n. *kōz-mōg'rā-fī* [Gr. *kosmos*, the world; *grapho*, I describe, I write of: F. *cosmographie*]: a description of the world or universe; the science which treats of the several parts of the universe, their laws and relations, and therefore comprehends geography, geology, and astronomy. **COSMOGRAPHER**, n. *-rā-fēr*, one who describes the world or universe. **COSMOGRAPHICAL**, a. *-mō-grāf'ī-kāl*. **COSMOGRAPHICALLY**, ad. *-lī*.

COSMOLABE, n. *kōz'mo-lāb* [Gr. *kosmos*, the world; *labano*, I take]: instrument for taking the angles between the heavenly bodies and their height. It was nearly the same as the astrolabe.

COSMOLATRY, *kōz mōl'a-trī* [*kosmos*, the world; *latreia*, divine worship]: the worship of the world. In some cases it might rest on a foundation of pantheistic belief.

COSMOLOGY, n. *kōz-mōl'ō-jī* [Gr. *kosmos*, the world; *logos*, a discourse: F. *cosmologie*]: science (or rather speculation) as to the system of the universe and the nature of the world and material things; used sometimes in same sense as **COSMOGONY** (q. v.). **COSMOLOGIST**, n. one who writes of. **COSMOLOGICAL**, a. *-mō-lōj'ī-kāl*. **COSMOLOGICALLY**, ad. *-lī*.

COSMOMETRY, n. *kōz-mōm'ēt-rī* [Gr. *kosmos*, the world; *metron*, a measure]: the science which measures the world.

COSMOPLASTIC, a. *kōz'mō-plās'tik* [Gr. *kosmos*, the world; *plastikos*, plastic]: world-forming; pertaining to the formation of the world.

COSMOPOLITAN, n. *kōz'mō-pōl'ī-tān*, or **COSMOPOLITE**, n. *-mōp'ō-lit* [Gr. *kosmos*, the world; *politēs*, a citizen: F. *cosmopolite*]: one who is at home everywhere; a citizen of the world. **COSMOPOLITANISM**, n. *-mō-pōl'ī-tān-izm*, citizenship of the world.

COSMORAMA, n. *kōz'mō-rā'mā* [Gr. *kosmos*, the world; (*h*)*orāma*, a view]: an optical exhibition in which objects are represented vividly, and greatly enlarged in size; a diorama. **COSMORAMIC**, a. *-rām'ik*, pertaining to

COSMOS—COSSACKS.

COSMOS, n. *kōs'mōs* [Gr. *kosmos*, order, harmony, the world]: the universe—the globe, all worlds, and all things therein: see **COSMOGONY**. **COSMIC**, a. which see. **MICROCOSM**, n. man as an epitome of the universe in the different parts and qualities of his nature: see **MICROCOSM**.

COSMOSPHERE, n. *kōz'mo-sfēr*: an instrument for representing, though of necessity very imperfectly, the relative position of the earth with regard to the stellar 'firmament.'

COSMOTHETIC, a. *kōz-mo-thēt'ik* [Gr. *kosmos*, the world; *thetēs*, one who places]: believing in the existence of matter, but at the same time denying that the external world has any existence except in our own mental conception.

COSNE, *kōn*: town of France, dept. of Nièvre, on the right bank of the Loire, here crossed by a suspension-bridge. It has iron manufactures. Pop. 6,000.

COSSACKS, n. plu. *kōs'sāks* [Russ. *kozake*, said to be a Tartar word meaning 'vagabond': Tartar, *kasak*, a cavalier]: in *Russia*, military tribes guarding the s. and e. frontiers of the Russian empire—very skilful as horsemen: a race whose origin is scarcely less disputed than that of their name. The latter has been variously derived from words meaning, in radically distinct languages, 'an armed man, a sabre, a rover, a goat, a promontory, a coat, a cassock, and a district in Circassia.' The C. are by some held to be Tatars, by more to be of nearly pure Russian stock. The most probable view is that they are of very mixed origin. Slavonic settlers seem to have mingled with Tatar and Circassian tribes in the regions s. of Poland and Muscovy, in the Ukraine and on the lower Don; and to have given to the new race, first heard of as Cossacks in the 10th c., a predominantly Russian character. On the conquest of Red Russia by Poland, numerous Russian refugees fled to the Cossack country; and more on the Tatar conquest of Muscovy. The numbers of the C. were also recruited from time to time by adventurers or fugitives from Poland, Hungary, Walachia, and elsewhere; but in physique, as in language and religion, the C. have always been mainly Russian. They distinguished themselves in war against Turks and Tatars, and were known as a powerful military confederacy in the 15th c. The kings of Poland and the czars of Muscovy employed them largely to defend their frontiers, especially against nomadic neighbors; but the connection between the C. and their lords paramount was always very elastic, and was frequently repudiated to suit the convenience of either party. The C. are still the outposts of Russian authority towards Siberia, Central Asia, and the Caucasus. Living near, or as 'free Cossacks' among, hostile peoples, the C. developed their peculiar military organization—either forming a cordon of military settlements along the confines of occupied territory, or as isolated camps in the nomad country beyond. Agriculture they eschewed; self-reliance and readiness at all times for defense or assault were their chief characteristics; though such of them as inhabited the banks of the Don and Dnieper, and their islands, became and still are skilful

COSSET—COSTA.

boatmen and fishers. Their political constitution was completely democratical; all offices were elective for one year only; and every Cossack might be chosen to any post, including the supreme one of Attaman or Hetman. This organization they have in great measure retained, though the office of Hetman was abolished by the Emperor Nicholas, except as a title hereditary in the imperial family. There have been two main branches of the C.—the Malo-Russian and the Don C. To the first belonged the Zaporogian C., those dwelling near the *Porogi* or falls of the Dnieper. From them again are descended the Tschernomerian C., those of the Kuban Valley and of Azov. From the Don C. spring those of the Volga or of Astrakhan, of the Terek Valley, of Orenburg, of the Ural, and of Siberia. They furnish a large and valuable contingent of light cavalry to the Russian army, and are very patient of fatigue, hunger, thirst, and cold. The Don C. give name to a province with an area of nearly 60,000 sq. m.; population over a million, of whom 20,000 are Kalmucks. Though the C. have generally been represented in the west of Europe as little better than fierce savages, they have left a very favorable impression on those who have dwelt among them. Jonas Hanway found them in 1743 'a civilised, and a very gallant as well as sober people;' and many more recent travellers agree in asserting that the C. are in intelligence, cleanliness, refinement, and enterprise greatly the superiors of the average Russians. See Springer, *Die Kosacken* (1877), Wallace Mackenzie's *Russia* (1877), and an article in the *Geographical Magazine* for 1878.

COSSET, n. *kõs'sět* [It. *casiccio*, a lamb bred by hand—from *casa*, a cottage]: a lamb brought up by hand; a pet lamb: V. to fondle. **COS'SETING**, imp. **COS'SETTED**, pp. *-sě-těd*.

COSSIMBAZAR, *kõs-sĩm-ba-zâr'* (*Cossim's market*): town on the Bhagirathi, which is the first or most westerly offset of the Ganges. It is the river port of Moorshedabad. It was formerly famous for its silk manufactures. Pop. about 4,000.

COS'SUS: see **GOAT MOTH**.

COST, n. *kõst* [OF. *coster*, and *couster*, to stand one in, to cost—from L. *constāre*, to stand together, to consist, to cost: It. *costare*, to cost: comp. Gael. *cosd* or *cosg*, to spend]: the price or value of a thing; expense; charge; expense of any kind; pain; suffering: V. to be had at a price; to be bought for; to require to be given, laid out, bestowed, or employed; to cause to bear or suffer. **COST'ING**, imp. **COST**, pt. and pp. **COSTS**, n. plu. law charges. **COST'LY**, a. *-lĩ*, of a high price; expensive; sumptuous. **COST'LINESS**, n. expensive-ness. **COST'LESS**, a. without cost. **COST-FREE**, a. free of cost or charges.—**SYN.** of 'cost, n.': value; worth; loss; detriment.

COSTA, n. *kõs'tă* [OF. *costé*, a side—from L. *costa*, a rib, a side]: a rib; the mid-rib. **COSTÆ**, n. plu. *kõs'tě*, in *bot.*, the prominent bundles of vessels in the leaves; in *zool.*, the rows of plates which succeed the inferior or basal portion

COSTA—COSTARDMONGER.

of the cup among Crinoidea; vertical ridges on the outer surface of thecæ among corals. **COSTAL**, a. *kôs'tāl* [It. *costale*; F. *costal*, *costal*]: pertaining to the sides or ribs of the body. **COSTATE**, a. *kôs'tāt*, or **Cos'TATED**, a. ribbed; in *bot.*, applied to leaves which have a single rib.

COSTA, *kôs'tā*, **ISAAC DA**: poet and religious writer. 1798, Jan. 14—1860, Apr. 28; b. Amsterdam. His parents were Portuguese Jews, who had settled in Holland. In his twentieth year, C. acquired the degree of doctor at law, and shortly afterward embraced Christianity and was baptized. This subjected him to considerable persecution, which, however, subsided as his genius gradually gained recognition. The most interesting of his writings to the English-speaking public are probably his translation of Byron's *Cain*, his *Israel and the Gentiles*, and *Harmony of the Gospels*, the last two of which have been translated into English. As a public lecturer, C. specially excelled. His *Battle of Nieuwpoort*, the last of his poems, is one of his masterpieces.

COSTA, **Sir MICHAEL**: 1810, Feb.—1884, Apr. 29; b. Naples: popular musician and composer. As he early showed talent for music, he was sent to the Conservatoire in his native city for education, where he greatly distinguished himself. In 1829, his fame, though he was then but 19, having reached England, he was invited to take part in the Birmingham Musical Festival; and being well received, he resolved to settle in England. In 1832, he was appointed conductor of the music at the King's Theatre, London, an office which, in 1847, he resigned for a similar one in the Royal Italian Opera, Covent Garden. His great work, the oratorio *Eli*, produced at the Birmingham Festival 1855, raised him to eminence as a composer. *Naaman*, first sung in Birmingham, 1864, was a great success. From 1857 onward, he conducted at the Handel Festival. He was knighted by the Queen, 1869; and in the same year received an order from the king of Würtemberg, in token of his majesty's admiration of *Eli*. C. was the author of several ballets, and of some operas, the most successful of which was *Don Carlos*. As a composer, he holds a respectable place in the second rank.

COSTARDMONGER, n. *kôs'têrd-mŭng'gêr*—now spelt **Cos'TERMON'GER**, n. *kôs'têr-* [*OE.*, *costard*, a large apple, and *monger*]: one who sells fruit, fish, or vegetables in the streets of a town in a barrow or small cart. **Cos'TARD**, n. in *OE.*, the head; a large apple.

COSTA RICA.

COSTA RICA, *kōs'tā rē'kâ*: most south-easterly state of Central America; occupying the entire breadth from sea to sea between Nicaragua and New Granada; n. lat. from 8° to $11^{\circ} 16'$, w. long. $81^{\circ} 40'$ to $85^{\circ} 39'$; 23,233 sq. miles.

The surface of C. R. is occupied chiefly by mountains, plateaux and valleys. Both the e. and the w. coasts have a general n.w. and s.e. direction, but they differ considerably in character. Along the Caribbean Sea the coast is bordered by a narrow plain, is indented by creeks and small bays, and its chief harbor is Port Matina. The w. coast is much more broken. At its s. extremity is the Gulf of Dulce; further n. is Port Montas and beyond that is the bay formed by the Rio Estrella. The Gulf of Nicoya some distance n. has a wide entrance, but becomes narrower inland, is 70 m. long, affords good shelter for shipping, and contains several islands. The Punta de Arenas on the e. side of the gulf has an excellent harbor and is the port of San José, the capital. Another good harbor on this coast is the Punta Culebra, formed by the rocky headland, Punta Catalina. The mountains belong to the Cordilleras range, and contain many volcanic peaks of considerable height. While the general elevation of the range is 5,000–6,000 ft., Turrialba rises 12,500 ft., Blanco, 11,740, Cartago, 11,400, Chiriqui, 11,265, and Los Votos 9,840. Toward the Caribbean Sea the descent is for the most part abrupt, but terminating 20–30 m. from the sea; toward the Pacific the descent is more gradual, while the highland advances much nearer to the sea and descends to it in a series of terraces. The n.e. extremity of the country subsides gradually into the plain of Nicaragua. The most important river of C. R. is the San Juan, which issues from the s.e. extremity of Lake Nicaragua, and from that point to its outlet in the Caribbean Sea forms the boundary between the republics of C. R. and Nicaragua. Among the numerous rivers which enter the Caribbean Sea are the Matina, the Purissima, and the Tortuga; the chief of those falling into the Pacific are the Estrella, the Arena, and the Baranca. The climate of C. R. is on the whole more regular and healthy than in other parts of Central America. There is a dry season Nov. to Apr., and a wet season through the remainder of the year. The thermometer seldom rises above 85° or falls below 65° . The soil is of varied quality, but in many parts very fertile. Large quantities of timber, especially Brazil-wood, mahogany, and cedar are exported. In the w. and n.w. portions, wheat, maize, sugar, and coffee are abundantly grown; fruits and vegetables are prolific; sheep thrive on the tableland, swine in the low districts, and cattle along the San Juan. In minerals, rock crystal and placer gold are found in the Cuesta Blanca; onyx in Pacaca; amethysts in the Colorado salines and the Barbudal Mountain, where there is also handsome jasper; opals in Candelaria; labradorite in the mountains n. of Raicero; Kaolin in San Ramon; lime for cement in Candelaria; phosphate of lime in San Antonio; and iron ore on the coast at Sardinal. C. R. is divided into six provinces, San José, Cartago, Heredia, Alajuela, Punta de Arenas—with capitals of the same name, and Guanacaste, cap. Liberia. The chief

cities are San José (pop., 1892, 19,326), on the elevated table-land, $9^{\circ} 46'$ n. lat., 84° w. long.; a modern city, 4,500 ft. above the sea; Cartago, at the base of the volcano of that name, 16 m. e. by s. of San José; formerly the capital; almost entirely destroyed by an earthquake 1841; and Alajuela, about midway between San José and Punta de Arenas.

Government.—The govt. of the republic, prescribed by the constitution of 1859 and the amendments of 1871 and 82, is vested executively in a pres. elected for a term of four years, and ineligible for re-election; and legislatively in a single chamber of representatives of 32 members elected for four years, one-half retiring every 2 years—one representative for every 8,000 inhabitants. The chamber is chosen in electoral assemblies, whose members are elected by the votes of all persons of age who are able to support themselves. The judicial authority is vested in a supreme court of 11 judges, elected by congress every 4 years. It is divided into two courts of appeals, each with 3 judges, who decide the cases in second instance; and the court of cassation, with 5 judges, whose mission is to see that the law is correctly applied in all suits. There are also criminal courts, and subordinate judges called mayors, throughout the republic. Each province has a governor and commandant-at-arms, appointed by the president.

Commerce and Finance.—The internal debt, including outstanding paper money, April, 1901, was about £672,050, and the foreign debt about £2,000,000, bearing 5 per cent. interest. Revenue for year 1901 was about £813,160, and expenditures about £870,950. Revenue is derived mainly from customs, supplemented by a gov. monopoly of spirits and tobacco trade. In 1895 payment of interest on foreign debt was suspended, and the gov. made a proposition to scale the debt one-half. The imports for the year 1893 were 5,833,427 pesos, of which 1,399,615 pesos were from the U. S., and 1,697,944 from Gt. Britain. Exports were 9,619,064 pesos, 8,304,930 pesos being coffee, of which 4,586,870 went to Great Britain, and 1,954,298 to the United States, about half the commerce being carried in British vessels. The silver peso is of the same bullion value as the United States silver dollar, but is not kept at par with gold as is the dollar, and its value fluctuates with the price of silver.

There were 1896 two lines of railroad, one from Port Limon on the Atlantic coast to San José and beyond, 147 miles, and one from Punta de Arenas on the Pacific to Esparta, 14 miles. These two will soon be connected, giving a through line from the east to the west coast. There are about 700 miles of telegraph line in operation.

Education and Religion.—A renewed interest in the progress of education is now being taken both by the people and the govt. In 1881, Jan., there were 115 primary public schools for boys, and 101 for girls. The children of school age numbered 32,306, of whom 17,026 were boys and 15,280 girls; the school attendance was 13,413—boys 7,355, girls 6,058. There were also 86 private primary

schools, with 1,861 students. The school tax in the six provinces amounted to \$24,489. In 1887, Jan., the number of primary public schools had increased to 138, with 278 teachers and an attendance of 14,478 children. There is a univ. at San José, with profs. of Latin, Spanish, English, French, mathematics, civil engineering, and architecture. Cartago, Heredia, and Alajuela are similarly provided. In 1897 there were 327 primary schools, with 21,913 pupils, and five institutions for higher education. Public instruction is enforced. The state religion of C. R. is Rom. Cath., but there is a complete tolerance of other forms.

C. R. was discovered by Christopher Columbus, 1502, while on his fourth voyage to the new world. He anchored in the harbor of San Juan, made several landings, and because of the numerous specimens of gold found on the coast named the place La C. R. y Castilla de Oro. It was included in Guatemala and held as a province of Spain till 1821, Nov., when it became a part of the Mexican empire of Iturbide. In 1823, it united with Guatemala, San Salvador, Honduras, Nicaragua, and the territory of Mosquitia in forming the Central American confederacy, and maintained this relation till 1840, when it withdrew and proclaimed itself an independent republic. It adopted a constitution 1847, was recognized by Spain and negotiated a treaty with her 1850, declared war against the American filibuster, William Walker, pursued him into Nicaragua and helped to force his surrender to the U. S. naval authorities 1856, and joined Guatemala, Honduras, and San Salvador in a treaty for the creation of a Central American republic 1889. Pop. (1872) 167,000; (1885) 193,144; (1892) 262,700. See CENTRAL AMERICA.

COSTEANING, n. *kōs-tēn'ing*: in mining, the act or operation of sinking shallow pits at intervals, and driving headings at right angles to the general course of the veins, for the purpose of discovering ore.

COSTELLO, *kōs-tēl'o*, LOUISA STUART: 1815-70: English authoress. Her first production, at least of any note, was *Specimens of the Early Poetry of France* (1835), but it was as a tourist she gained the greatest popularity. The works in which she describes her travelling-trips are—*A Summer Among the Bocages and the Vines* (1840); *A Pilgrimage to Auvergne*, etc. (1842); *Béarn and the Pyrenees* (1844); *The Falls, Lakes, and Mountains of North Wales* (1845); and *A Tour to and From Venice by the Vaudois and the Tyrol* (1846). Miss C. also wrote several novels, the principal of which are *The Queen-mother* (1841), and *Jacques Cœur, the French Argonaut* (1847). In 1853, she published a work professedly historical, entitled *Memoirs of Mary, the Young Duchess of Burgundy*; and in 1855, another of the same kind, *Anne of Brittany*.

COSTER, *kōs'tēr*, LAURENS JANSZON, according to the Dutch, the inventor of printing: abt. 1370-1439; b. Haarlem. The time of the invention ascribed to him must have been 1420-26. C., at first for his own amusement and the instruction of his grandchildren, cut letters out of the bark

of the beech-tree, which he inverted, and employed to print short sentences. Afterward, he discovered a more glutinous kind of ink, which did not spread in using, and succeeded in printing with it entire pages with cuts and characters. He also replaced his wooden types by types cast out of metal, at first using lead for this purpose, afterward pewter which he found harder and more suitable. C., for a time, worked in secret, because, he being a sacristan, his art, if known, would have brought him into unpleasant collision with the manuscript-writing clergy, whose productions he tried to imitate, even to the abbreviations; thus his name did not appear on the productions of his press. As custom increased, C. had to take apprentices; and one of them, a German, Johann, making use of the confusion occasioned by C.'s death, is said to have purloined the greater part of his master's types and matrices, and to have fled to Mainz, where he brought the hidden art to light. The Johann was probably Johann Gänsfleisch, a member of the Gutenberg family. Such, at least, is the history of the invention of printing as given by the Dutch, and which they support by the testimony of Hadrianus Junius, historian of the states of Holland, who, in his account of the discovery, states that, at the time he wrote, C.'s descendants were in possession of drinking-cups made out of the remains of the types which C. had used. Moreover, a celebrated printer of Cologne, Ulrich Zell, deceased about 1500, is said to have declared 'that Gutenberg *his master*, had derived his art from Holland, after the model of a *Donatus* printed there.' Now, a *Donatus* of C.'s time still exists; it was produced 1740 by Johannes Enschedé, also a celebrated printer of Haarlem; and no sooner had his discovery been made known in Meerman's *Origines Typographicae*, than fragments of the same work appeared in such quantities, that no one could any more aver that this early monument of imperfect typography, mostly printed from indisputably Dutch types, had been struck off from Gutenberg's press. Gutenberg's works, even now, are models of impression; those ascribed to C., *at first printed on one side only*, are the first proofs of a beginner. Then, all the characters of the oldest Dutch printed books resemble the Dutch handwriting of the first half of the 15th c., a proof of the independent nature of the attempts toward imitating manuscripts for sale. Other evidences are given by the Dutch that C. was the true inventor of printing; the most eminent advocates of his claims being Meerman, Koning, Scheltema, Van Westreenen van Tiellandt, De Vries, Schinkel, Noordziek, Ebert, Leon de Laborde, Paul Lacroix, and Bernard. Yet the most thorough-going assault on the claims of C. and of Haarlem, as being founded on local legends, was made 1870 by a Netherlander, A. von der Linde. In the town-house of Haarlem, the typographical remnants of the productions ascribed to C. are preserved. See PRINTING: and for the German account of the invention, GUTENBERG. As for C., his memory still is held in due honor by the town of his birth: the

site of his house is still pointed out with pride; and monuments to his memory have been erected.

COSTIVE, a. *kös'tiv* [L. *constipārē*, to crowd closely together—from *con*, *stipārē*, to cram: contracted from F. *constipé*, constipated, or It. *costipativo*, having a tendency to constipate]: bound or confined in the bowels. **Cos'TIVELY**, ad. -ly. **Cos'TIVENESS**, n. *nēs*, obstruction in the bowels, with hardness and dryness of the faecal matter: see **CONSTIPATION**.

COSTLY, COSTLINESS: see under **COST**.

COSTMARY, *kös'tmā-rĭ*, [Gr. *kostos*; L. *costus*, an aromatic plant, and *Mary*, the Virgin], (*Balsamita vulgaris*): aromatic perennial plant of the nat. ord. *Compositae*, subord. *Corymbiferae*, native of the south of Europe, long cultivated in Britain for the agreeable fragrance of the leaves. It is often called **ALE-COST**. The root-leaves are ovate, of a grayish color, on long footstalks; the stem is 2—3 ft. high; the stem-leaves have no footstalk; the small heads of flowers are in loose cor-mbs, deep yellow. The leaves were formerly put into ale and negus, and are still used by the French in salads.

COSTREL, n. *kös'trĕl* [mid. L. *costrellus*, a wine-bottle]: in *OE.*, a wine-bottle which could be suspended by its ears from the waist-belt; a laborer's drinking-bottle in harvest-time, made of wood.

COSTROMA: see **KOSTROMA**.

COSTS, in Law: expenses incurred in legal proceedings. As a general rule, the C. of the successful party are paid by the loser, but the rule is subject to important exceptions, among which are the following: A party suing or defending in *formā pauperis* does not pay C., though he is entitled to receive them if successful. Under a certain small amount, the decision as to costs in certain cases rests with the judge. A plaintiff who might have brought his action in a lower court, is not always entitled to C. if he sues in the higher courts. A party who is successful in the main, and therefore entitled to the 'general costs,' may be unsuccessful upon some minor point, and therefore bound to pay the C. which belong properly to it. A party who has tendered the amount recovered, and who pays the sum into court, and pleads the tender, is not bound to pay costs. The payment of money into court in the course of an action relieves the party paying from C. of subsequent proceedings, if no greater amount be ultimately recovered.

In Britain, the crown is now entitled to C., and bound to pay C. in the same way as a private suitor. In the United States, when the U. S. govt. is a party, it neither pays nor receives costs, except under a special statute. In equity, the giving of costs is entirely at the discretion of the court which, however, is exercised generally according to fixed principles. In criminal cases, the prosecutor's costs may be allowed by the judge. The statutes that give costs must always be construed strictly according to the letter.

C. are taxed (i. e., the items allowed or disallowed) by the officer of the court appointed for the purpose. When

COSTUME.

so ascertained, they are, if in favor of the plaintiff, included in the amount for which judgment is given, if it be in his favor, and recovered as part of it. If they are in favor of the defendant, they are recovered as a judgment in his favor.

C., in Scotland, are called expenses (q.v.): see also AUDITOR OF THE COURT OF SESSIONS.

COSTUME, n. *kōs-tūm'* or *kōs'tūm* [It. and F. *costume*]: style of dress; the mode of dress peculiar to any people or age. COSTUMER n. *kōs-tūm'ēr*, or COSTUM'IER, n. *-ēr*, one who makes and deals in fancy dresses.—SYN. of 'costume': dress; attire; apparel; array; clothes; clothing; habit; garment; vesture; vestment; raiment.

COSTUME': dress; another form of the word custom, and, in its wider sense, the external appearance which the life of a people presents at a particular epoch of its history. In its narrower and more usual sense, C. signifies the customary modes of clothing and adorning the person, in any particular age or country. In this sense, it includes the prevailing fashion in jewelry, weapons, and other personal equipments. In both senses, C. plays an important part in art. The poet, especially the narrative or epic poet, is compelled to resort to it as a means of carrying his reader back into the age which he describes. Homer has it constantly in view in narrating the exploits of his heroes. Among modern romance-writers, Sir Walter Scott has introduced the fashion of perhaps excessive attention to mere external costume. But it is in art as presented to the eye that C. becomes indispensable, and the loose and general treatment of it permitted to the novelist or the poet is forbidden to the painter, the sculptor, and the player. How sorely the sculptor has been tried by the wigs and breeches of former generations, and by the trousers, straps, hats, and other monstrosities of our own, no one needs be told. Two means, not of solving but of escaping from the difficulty, have been largely resorted to: one consists in departing from the modern dress altogether, and reverting to the ancient toga; the other, in wrapping up the figure, as far as possible, in a cloak. The first of these devices is neither more nor less than a deliberate violation of what artists regard as the laws of C., by which they conceive themselves bound to represent every object with its appropriate accessories; the second, besides being very often open in a lesser degree to the same objection, has the further disadvantage of accomplishing its object very imperfectly. The wisest course for the artist is boldly to face the difficulty. That he may do so successfully, many of the works of Rauch, Tieck, Thorwaldsen, Schadow, and others abundantly testify. In the earlier stages of art, an excessive attention to C. may generally be remarked, which though useless, and sometimes hurtful to artistic effect, has proved of great value for historical purposes. The tendency of the earlier schools of art to exhibit C. with an almost painful accuracy and minuteness, is exhibited in the works

COSTUS.

of the older masters, both of the Italian and German schools. Even during the period of the highest bloom of Italian art, the mediæval custom of representing historical, sacred, and ideal characters in the C. peculiar to the time and country of the artist, was in a great measure adhered to. From Paul Veronese, Tintoretto, and others, we may learn the aspect which a marriage-feast in the palace of a Venetian or Florentine grandee presented, but can form little conception of the C. of that simpler festivity in Cana of Galilee, or of that supper still less sensuous in Jerusalem, which they profess to represent. In the hands of the greater masters, these scenes assumed an ideal character; and in the works of Michael Angelo, Leonardo, and Raphael, C., though still exhibiting something of a native trace, rises into the highest regions of poetical conception. The effort to avoid anachronisms by a previous historical and antiquarian study of the subject, belongs, indeed, almost entirely to the modern European schools of art, and many painters of late have devoted themselves to it to such an extent as almost to forget that it is a means, and not an end, except, indeed, to a mere painter of clothes.

But it is in theatrical representations that attention to C., particularly in its narrower sense, becomes most imperative. When the stage, in Western Europe, commenced in the religious mysteries of the middle ages, the dress adopted was that which belonged to the time and the country. To this dress some fantastical object was generally added to indicate the character intended to be personated. The case remained thus during the time of Shakespeare in England, of Lope de Vega and Calderon in Spain, and even of Corneille, Racine, and Molière in France. Whether a Greek, a Roman, an Assyrian, or a Turk was represented, the ordinary court-dress of the time was adhered to, and the turban, the helmet, or the laurel-crown was placed on the top of the peruke or the powdered hair. In like manner, shepherdesses and peasant-girls had their hair dressed in turrets like feudal keeps, and long white kid gloves which covered their hands and arms to the elbow. Toward the middle of the 18th c., a reform was introduced by the famous actress Clairon, who acted Electra without hairpowder; but Talma was the first who introduced a C. really true to history. Garrick followed in the footsteps of the great Frenchman, though both he and Siddons, during their earlier period, personated Shakespeare's characters in 18th c. C. Schlegel's *Hermann*, and Goethe's *Götz von Berlichingen* were the first plays given in Germany with historical costume. See Planché's *Cyclopædia of C.* (2 vols. 1876-79), and Fairholt's *C. in England* (3d ed., 2 vols., 1835).

COSTUS, or COSTUS ARABICUS, *kōs'tūs ar-äb'ī-kūs*: aromatic, much esteemed by the ancients, probably the dried root of *Aucklandia Costus*, plant of the nat. ord. *Compositæ*, sub-ord. *Cynarocephalæ*; native of the moist open slopes surrounding the valley of Cashmere. The roots are there burned as incense. They have a strong aromatic pungent odor, and are used in protecting bales of shawls from moths.

COSWAY—CÔTE-D'OR.

The name *C.* is also given to a genus of endogens, ord. *Zingiberaceæ*. The roots of *C. speciosus* are used in India and elsewhere as a preserve.

COSWAY, *kos'wā*, **RICHARD**: 1740–1821; b. Tiverton, Devonshire, England: noted painter in his day. Between his 14th and 24th year, he carried off five premiums from the Soc. of Arts. As a miniature-painter, he was particularly famous, and gained all the patronage of the nobility of his time. His works, in fact, were the fashion, and all attempts at rivalry were useless. Many of them were distinguished by great delicacy, correctness, and beauty, and his drawings were not unworthy of a place beside some of the old masters. The immense sums of money which he made enabled him to live in the most sumptuous style, and to give musical-parties (his wife on such occasions being the principal performer), so far surpassing all other efforts of the kind that they formed a feature of the time, and were attended by the rank, fashion, and intellect of that day.

COSY, a. *kō'zī*: see **Cozy**.

COT, n. *kēt* [Fin. *koti*, a dwelling-place; *kota*, a mean house: Dut. *kot*, a hut]: a small house or cottage; a hut.

COT, n. *kōt* [Ger. *zote*, a cot, a lock of wool clung together; *kotze*, a rough shaggy covering: prov. Eng. *cot*, a matted fleece of wool: mid. L. *cottus*, a rug, a rough covering]: originally a mat of shaggy materials, then an inartificial sleeping-place, where a rug or mat may be laid down for that purpose; a small bed: a swinging bed-frame or cradle; a sleeping place in a ship, usually of canvass, stretched out on a wooden frame and holding a mattress—the whole being slung from the rafters of the cabin.

COTE, v. *kōt* [F. *côte*, a rib, a shore or coast—from L. *costa*, a rib]: in *OE.*, to coast or keep alongside; to pass or go by; to leave behind; to overpass. **COT'ING**, imp. **COTED**, pp. *kōt'ēd*.

COTE, n. *kōt* [AS. *cote*; W. *cwt*, a cavity, a hovel: Gael. *coit*, a fishing-boat—*lit.*, a shelter, as of an inverted coracle or fishing-boat]: a pen or shelter for animals, as sheep-cote, dove-cote; a cottage.

CÔTE-D'OR, *kōt-dōr'*: dept. in the e. of France, formed of part of the old province of Burgundy; lat. 46° 55'—48° 10' n., long. 4° 2'—5° 30' e.; 3,383 sq. m. The surface is in general rather elevated, and is traversed by a chain of hills forming the connecting-link between the Cevennes and the Vosges. A portion of that range, called the Côte-d'Or ('golden slope'), receives its name (which it gives to the dept.) on account of the excellence of the wines produced on its declivities: see **BURGUNDY WINES**. A great part of the dept. is covered with forests. The valleys and plains are fertile, and there is good pasture-land; but agriculture is in a backward state. C. is watered by the Seine, which rises in the n.w., and by several of its affluents; by the Saone, and by the Arroux, a tributary of the Loire.

COTEMPORANEOUS—COTES-DU-NORD.

By means of canals, C. has water communication with the German Ocean, Mediterranean, English Channel, and Bay of Biscay. The climate is temperate; iron, coal, marble, gypsum, and lithographic stones are found, the first in large quantities. C. is divided into four arrondissements; viz., Beaune, Châtillon-sur-Seine, Dijon, and Semur, with Dijon for a capital.—Pop. (1881), 380,548; (1901) 361,626.

COTEMPORANEOUS, COTEMPORARY, etc.: see under CONTEMPORANEOUS.

CO-TENANT, n. *kō-těn'ănt* [*con* and *tenant*]: a tenant in common.

COTERIE, n. *kō'tér-ē* [F. *coterie*, a club, a society—from mid. L. *cōtārĭūs*, a neighbor—from mid. L. *cōta*, a cot]: a friendly party; a circle of familiar friends, particularly of ladies; a select party. *Note*.—*Littre* connects *coterie* with OF. *coterie*, servile tenure—from mid. L. *coterĭā*, a tenure of land by cottars who clubbed together: OF. *cottier*, a cot-tar—from mid. L. *cota*, a cot.

COTERMINOUS; see CONTERMINOUS.

COTES, *kōts*, ROGER: 1682, July 10—abt. 1705; b. Burbage, near Leicester, England. He was the author of the admirable preface explaining the Newtonian philosophy, and answering objections to gravitation, prefixed to the second edition (1713) of Newton's *Principia*. Various mathematical papers of his own, tending greatly to the development of logarithms, were published after his death. Short as his life was, his influence on mathematics is clearly traceable. He was held in the highest esteem by the scholars and scientific men of his time; and Sir Isaac Newton is asserted to have said of him that, had he lived, 'we should have known something.'

CÔTES-DU-NORD, *kōt-dü-nōr'* (northern coasts): dept. in the n.w. of France, forming a part of Bretagne, and bounded n. by the English Channel, in which are several small islands belonging to C.; lat. 48° 3'—48° 57' n., long. 1° 53'—3° 35' w.; 2,659 sq. m.; pop. (1901) 609,349. The Armoric Hills, callèd also the Montagnes Noires, and the Menez Mountains, cross the dept. from e. to w., having a breadth of about 16 m., and consist chiefly of granite and clay-slate. These formations give a rude and broken aspect to the coasts. The chief rivers, short but navigable, are the Rance, Gouet, Trieux, Guer, and Arguenon. The s. district has the advantage of a considerable length of the canal between Nantes and Brest. Though a great portion of the south and the higher plains is occupied by heath and woods, there are, here and there, fertile spots; and in the north the influence of the neighboring sea is favorable to vegetation. The cultivation of flax and hemp, with pasturage and iron-mining, supply employment in the mountainous districts; while in the sheltered valleys and on the coast-levels all European kinds of grain, with pears and apples and other fruits, are produced; and maize is cultivated, but does not always ripen. The coasts are well supplied with various

COTGARE—COTONEASTER.

kinds of fish. The dept. is divided into the five arrondissements of St. Brieuc, Dinan, Loudéac, Lannion, and Guingamp. The chief town is St. Brieuc.

COTGARE, n. *kõt'gär* [Eng. *cot*, refuse wool; prov. Eng. *gare*, accouterments]: refuse wool.

COTHEN, or **KÖTHEN**, *kö'tén*: an ancient town in the duchy of Anhalt, on a tributary of the Saale. Sugar from beetroot is largely manufactured here; spirits are distilled; and there is a trade in wool and corn. Brown coal is found in the neighborhood. Pop. (1880) 16,155.

COTHURN, n. *kō-thérn'*, or **COTHURNUS**, n. *kō-thér'nūs* [L. *cothurnus*; Gr. *kothornos*, a high hunting-boot among the Greeks]: *among the anc.*, the buskin or boot worn by actors in tragedy, while the *soccus* or *sock* was a shoe worn by the comic actor; tragedy: see **BUSKIN**. **COTHURNAL**, a. tragic; solemn.

COTICE, **COTTISE**, *kõt'is*, or **COST**, *köst*, in Heraldry: one of the diminutives of the Bend (q.v.).

COTICULAR, a. *kō-tik'ū-lér* [L. *cotricula*, dim. of *cos*, a whetstone]: pertaining to a whetstone; like a whetstone or suitable for it.

CO-TIDAL LINES, *kō-tī'dal*: lines on a chart or map, showing the places of high tide at the same moment.

COTILLION or **COTILLON**, n. *kō-tīl'yŭn* [F. *cotillon*, a little petticoat—from *cotte*, a petticoat]: a lively dance of French origin, engaged in by eight persons—so named because petticoats were seen as the women danced. The quadrille which superseded it is only a new variety of the cotillion.

COTINGA, *kō-tŭn'ga* (*Ampelis*): genus of birds of the family *Ampelidæ*, or Chatterers (q.v.), having a rather feeble and deeply-cleft bill, and feeding both on insects and on fruits. They are natives of S. America, inhabit moist places, and are remarkable for the splendor of plumage of the males during the breeding-season. Azure and purple are then their prevalent colors. During the rest of the year, they are clothed in a tame gray or brown.

COTLANDER, n. *kõt'land-ér*: a cottager who keeps a horse for plowing his small piece of land.

COTONEASTER, *ko-tōn-ě-às'tér*: genus of plants of the nat. ord. *Rosaceæ*, sub-ord. *Pomaceæ*, having polygamous flowers; a top-shaped calyx, with five short teeth; five small, erect petals; erect, short stamens; and a top-shaped fruit, the nuts of which adhere to the inside of the calyx, but do not cohere in the centre. The species are numerous, shrubs or small trees; some of them evergreen; with simple undivided leaves, more or less woolly beneath; small flowers in lateral cymes; and small fruit not agreeable to the palate, but the bright color of which, and its remaining on the tree in winter, make them very ornamental. *C. vulgaris* is a deciduous species, a native of hills in Europe and Siberia. *C. tomentosa* is found also in the

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Alps. Most of the species are natives of mountainous parts of Asia; they are sufficiently hardy for the climate of Britain, and have become there common ornamental shrubs. Some of them, as *C. rotundifolia* and *C. microphylla*—both from the north of India—are much planted for covering walls.

COTOPAXI, *kō-tō-pāks'ē*: loftiest active volcano in the world, is in Ecuador, in the e. chain of the Andes, abt. 50 m. s. of the equator. Humboldt gave the height at 18,800 ft.; Reiss, the first to ascend it (1872) found it 19,500 ft. above the sea. The valley at its foot, however, is itself 9,000 ft. high. The upper part of C., a perfect cone of 4,400 ft. is entirely covered with snow, except that the verge of the crater is a bare parapet of rock. Whymper, who ascended 1880 to the edge of the crater, gives the height as 19,600 ft. Below the snow is a well-marked barren belt covered with lichens and shrubs, below which again is forest. Smoke issues from the summit; sounds as of explosions are occasionally heard; and above, a fiery glow is often visible by night. Lava rarely flows even during eruptions, but flame, smoke, and immense volumes of ashes are then ejected; and when the heat melts large masses of the snow lying on the sides, destructive floods are occasioned in the valleys beneath. The first eruption recorded was in 1533. Others followed in 1698, 1743, 1744; and in 1768, most terrible of all. On the latter occasion ashes were carried 130 m., and thickly covered an extensive area. C. was quiet till 1851. In 1854, 1855, and 1856 there were eruptions of more or less violence.

COTQUEAN, n. *kōt'kwēn* [*cot*, a small house, and *quean*, a woman: a probable corruption of *cock-quean* = male-woman]: an effeminate man; a man interfering in woman's concerns; a feeble womanly man. Note.—Wedgwood suggests, Dut. *kutte*; Fin. *kutta*, the distinctive features of a woman, as the etymology of *cot* in *cotquean*: in *OE.*, *cut* is a term of abuse for a woman—hence CUTTY: see under CUT 2.

COTRONE, *kō-trō'nā*: town of Italy, province of Catanzaro, on a point of land projecting into the sea; lat 39° 7' n., long. 17° 10' e. Pop. (1891) 9,649. It is almost surrounded by the Esaro (ancient Æsarus), which here has its embouchure. C. is very strongly fortified. Its streets are dark and narrow, and its port of no importance. C. possesses interest from its antiquity and historic associations. It owes its origin to a colony of Achæans, as far back as B.C. 710, its ancient name being Croton or Crotona. It soon became prosperous, wealthy, and powerful. Its walls measured 12 m. in circumference, and the territory over which it extended its sway was considerable. Its inhabitants were celebrated for athletic exercises, and they carried off most of the prizes at the Olympic games. Milo was its most renowned athlete. Pythagoras settled here about the middle of B.C. 6th c.; but the influence which he exercised by means of a league of his formation, be-

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came obnoxious to the citizens, and he was expelled. About B.C. 510, C. sent forth an army of above 100,000 men to fight the Sybarites, who were utterly defeated, and their city destroyed. The war with Pyrrhus completely ruined the importance of C., and B.C. 2d c. it had sunk so low, that a colony of Romans had to be sent to recruit its well-nigh exhausted population. It never recovered its prosperity. Some ruins of the old are near the modern city, the most important of which is a Doric column, part of a once magnificent temple to Juno, on Cape Colonne or Nau (the Naus of the ancients).

COTSWOLD, n. *kots'wôld* [AS. *cote*, a hovel; *wôld*, a wood]: inclosures for sheep in an open country; a breed of sheep. COTSWOLD HILLS, or COTESWOLD, range of oolitic and lias hills, traversing the middle of Gloucestershire, England, from Chipping Camden in the n.e., by Cheltenham and Stroud, to near Bath in the s.w. They are parallel to the Avon and Severn, and separate the Lower Severn from the sources of the Thames. They are 54 m. long, and in some parts 8 broad, and cover 312 sq. m., with an average height of 500 to 600 ft. The highest points are Cleave Hill, 1,134 ft., and Broadway Hill, 1,086 ft. The soil is a clayey loam, with gravel and stone-brash. The surface is generally bare, with little wood; corn, turnips, and sanfoin are grown, and coarse-woolled sheep fed on them. At Stroud, they are crossed by the Thames and Severn Canal, and the Swindon Junction railway.

COTTA, *ko'tá*: name of a very old German publishing-house, established at Tübingen 1649, and still one of the most flourishing in Germany. The family came from Italy about the beginning of the 15th century.

JOHANN FRIEDRICH FREIHERR VON C. was the most prominent member of the family, a theologian, and one of the most eminent publishers that Germany ever produced: 1764. Apr. 27—1832, Dec. 29; b. Stuttgart. He was educated at the Univ. of Tübingen, and for some time practiced as an advocate. In 1787, he undertook to conduct the family book-trade at Tübingen; and in 1795 established the *Horen*, a literary journal, under the editorship of Shiller. In the same year, he commenced two larger periodicals, the *Politischen Annalen*, and the *Jahrbücher der Baukunde*. In 1798, he established the *Allgemeine Zeitung* (at Augsburg, now published at Munich), the *Almanach für Damen*, and similar works. C. now began to publish the works of the illustrious modern authors of Germany, such as Goethe, Herder, Fichte, Schelling, Jean Paul, Tieck, Voss, Theres Huber, Matthisson, the Humboldts, Joh. von Müller, and Spittler. Besides the periodicals already mentioned, C. established the *Morgenblatt* and the *Literaturblatt*, and carried on the *Kunstblatt*, founded by Schorn. In 1810, he went to live at Stuttgart. The nobility of his family, which dated far back, was confirmed in his person under the title of Freiherr C. von Cottendorf. In 1824, he intro-

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duced the first steam-press into Bavaria, and shortly afterward founded at Munich the Literary and Artistic Institute. C.'s political principles were liberal, but temperate. In the diet of Würtemberg, and afterward as pres. of the Second Chamber, he was always the fearless defender of constitutional rights. In manners, C. was simple and pure; and though covered with titles and orders from different governments, he had neither the pride nor the selfishness of a hereditary patrician. The first Würtemberg proprietor who abolished servitude on his estates, C. also furthered the interests of his farmers by establishing model-farms, and by setting an example in all rural improvements.

COTTAGE, n. *kõt'tij* [mid. L. *cotāgiūm*, a serf's dwelling: Fin. *koti*, a dwelling place: AS. *cote*, a hovel (see COTE 2)]: any small detached house; a small country house. COT'TAGER, n. *-er*, one who lives in. COT'TER, COT'TAR, n. *kõt'ter*, and COT'TIER, n. *kõt'yër*, contractions for cottager. COTTAGE ORNÉ, *ör'nā* [F. *orné*, adorned, decorated]: a cottage of a superior and ornate character, the residence of one in good circumstances. COTTAGE-PIANO, n. a small upright piano.

COTTAGE: small dwelling-house, detached from other buildings, and usually one story in height. Originally applied to a humble order of dwellings in the country, the term C. now embraces a wide variety of structures, from the cottage *orné* of the French, to the simple but not unattractive cabin in the English rural districts, and the mountain *chalet* of Switzerland. In England, where universal security enables the people to establish dwellings in retired and picturesque situations, the building of cottages has been brought to great perfection. For the different styles of this class of houses, see the elaborate work of J. C. Loudon, on *Cottage Architecture*. The subject of proper C. accommodation, as regards the laboring peasantry of England and Scotland, has lately engaged serious attention: see papers in the *Transactions of the National Assoc. for the Promotion of Social Science*. The best methods of keeping cows, pigs, poultry, bees, etc., are ordinarily described under the comprehensive title of C. economy: see Cobbett's *Cottage Economy*; also *Chambers's Information for the People*.

COTTBUS, or KOTTBUS, *kõt'bós*: town of Prussia, province of Brandenburg, on the Spree, about 70 m. s.e. of Berlin. It is an ancient place, surrounded by walls, and it has an old castle with towers, a royal palace, a gymnasium, and manufactures of beer, woollens, linen, leather, and tobacco. Pop. (1885), 28,265.

COTTER, n. *kõt'tër* [a probable corruption of CUTTER]: a wedge-shaped piece of wood or other material employed to fasten the parts of a structure; a key: see GIB.

COTTIDÆ, *kõt'ti-dē*: family of spiny-finned fishes; type, *Cottus*.

COTTIN, *ko-tǎng*, SOPHIE: 1773–1807, Aug. 25; b. Ton-

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neins (Lot-et-Garonne): popular French authoress. Her maiden name was Ristaud. Educated at Bordeaux, she was married, when only 17 years of age, to M. Cettin, a Parisian banker, who left her a widow at the age of 20. She had early shown a love of literature; and to cheer the solitude of her affliction (for she had no children), she betook herself to the composition of verses, and even ventured on a long history. But in fiction she was destined to win unfading laurels. In 1798, appeared *Claire d'Albe*; in 1800, *Malvina*; in 1802, *Amélie Mansfield*; in 1805, *Mathilde*; and in 1806, *Elisabeth, ou les Exilés de Sibérie*, a work which has been translated into most European languages, and has always been extraordinarily popular with the young. .

COTTING, JOHN RUGGLES, M.D., LL.D: 1787-1867, Oct. 13; b. Acton, Mass.: scientist. He was educated at Amherst College, the medical school of Dartmouth College and Harvard Univ.; ordained a Congl. minister 1810, studied chemistry and the allied sciences, manufactured a line of chemical compounds never before attempted in this country, at Boston, 1812-15; was prof. of chemistry at Amherst College and the Pittsfield Medical School; and, removing to Augusta, Ga., 1835, made an agricultural and geological survey of Burke and Richland cos. on the invitation of the leading cotton-planters. A copy of his report with the analyses of the cotton lands, and finely executed maps and drawings, was solicited by the emperor of Russia for the royal library. Subsequently he undertook a similar survey of the entire state, but had to desist from lack of funds. Among his published works are an *Introduction to Chemistry* (Boston, 1822), and *Synopsis of Lectures on Geology* (Trenton, 1825).

COTTLE, kŏt'l, JOSEPH: abt. 1774-1853; b. England: poet. In early life he was a bookseller, then became a publisher in Bristol, and brought out the first poems of Southey and Coleridge, 1796. He was noted for his steadfast friendship for those poets in their adverse days, as well as for his own poetical writings—*Malvern Hills*, *Alfred*, and *The Fall of Cambria*, *Reminiscences of Coleridge and Southey* (1847), and various essays.

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COTTON, n. *kõt'tn* [F. *coton*; Sp. *algodon*; Arab. *qo'ton*; prov. F. *coutou*, wool, flock, cotton]: a soft downy substance resembling fine wool, consisting of hairs attached to the seeds of a plant grown in warm countries; the thread made from it; the cloth made from it; calico: **ADJ.** made of or pertaining to cotton. **COTTONY**, a. *kõt'tn-ĭ*, soft like cotton. **COTTON-GIN**, *-jĭn*, a machine to separate the seeds from the cotton-wool. **COTTON-PLANT**, the various species of *Gossyp'ium*, ord. *Malvācēæ*, producing the cotton of commerce. **COTTON-PRESS**, a press in which cotton is baled for transportation and storage. **COTTON-THISTLE**, the book-name for *Onopordon*, a genus of composite plants: see **THISTLE**.

COTTON, v. *kõt'tn* [W. *cyteno*, to agree, to consent]: in *OE.*, to agree; to succeed. **COT'TONING**, imp. **COTTONED**, pp. *kõt'tnd*.

COT'TON: important vegetable fibre, extensively cultivated in various parts of the globe, within the 35th parallels of latitude.

1. *Botanical and Commercial Classifications*.—C. is the produce of all the species of the genus *Gossypium*, which belongs to the nat. ord. *Malvaceæ*, and is thus allied to Mal-low, Hollyhock, Hibiscus, etc., the general resemblance to which is very apparent, both in foliage and in flowers. The species are partly shrubs, partly herbaceous, and either perennial or annual; they are natives of the tropical parts of Asia, Africa, and America, but their cultivation has extended far into the temperate zones. They all have leaves with three to five lobes, which in a very young state are often sprinkled with black points, and rather large flowers, mostly yellow, but sometimes in whole or in part purple; the flowers very soon fall off; they grow singly from the axils of the leaves, and are surrounded at the base by three large, heart-shaped, cut or toothed, involueral leaves or bracts, partially growing together as one. The fruit is a 3-5-celled capsule, springing open when ripe by 3-5 valves, and containing numerous seeds enveloped in C., which is generally white, but sometimes yellow, and issues elastically from the capsule after it has burst open. The figure represents a species of C. plant found in India, and shows the manner in which the C. escapes from the capsule. Some of the other kinds have the flowers larger in proportion, and the leaves divided into more numerous and much deeper and narrower lobes; but the general appearance of all is very similar. Botanists differ in opinion as to the number of distinct species, and there are very many varieties in cultivation, the number of which, through climatic influences and other causes, is continually increasing; but there are certain leading peculiarities on account of which some botanists and practical farmers reduce all, at least of the cultivated kinds, to four primary species—viz., 1. *Gossypium Barbādense*; 2. *G. Herbaceum* or *Indicum*; 3. *G. Peruvianum*; and 4. *G. Arboreum*. The produce of the first species is the most valuable. The beautiful long-stapled silky wool known as 'Sea Island' is a variety, and is grown exclu-

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sively upon the islands and a portion of the mainland of Georgia, South Carolina, and Florida; the saline ingredients of the soil and atmosphere being indispensable elements of the growth. The plant bears a yellow flower, and the seeds are small, black, and quite smooth, and the wool is easily separated therefrom; but when sown far inland, away from the saline influences of the coast, the seeds increase in size, and become covered with innumerable short hairs. A large percentage of the crops raised in Alabama, Louisiana, Mississippi, Texas, etc., are varieties of this species, though, owing to climatic influences, the wool is shorter in staple and less easily separated from the



Cotton (*Gossypium trilobatum*).

seeds than Sea Island. The commercial value of the latter kind varies from 25 cents to 75 cents per lb., rare specimens sometimes realizing \$1.25 or \$1.50 per lb. The better descriptions of Egyptian cotton belong to *G. Barbadense*, and bring 25 cents to 62 cents per lb. in the Liverpool market. The short-staple varieties, known as New Orleans, Mobile, etc., sell at from 10 to 20 cents, extra qualities sometimes bringing 25 cents per lb. *G. herbaceum* is found in India, China, Egypt, etc. The principal commercial varieties are those known as Surat, Madras, and short-stapled Egyptian. It is a small shrubby plant, bears a yellow flower, the seeds are covered with short grayish down, and the staple produced, though not long, is very

fine. Its price varies from 7 to 18 cents per lb. A variety is cultivated in the United States, and the C. known as nankeen is thought to belong to this species. *G. herbaceum* can be profitably cultivated in colder countries than any other species of C. plant. The third species is a native of S. America, and the 'green seed' C. of the United States appears to be a variety. The stem reaches 10 to 15 ft. in height, the flowers are yellow, and the capsules contain eight or ten black seeds, firmly attached in a cone-like mass. The wool is long and strong-stapled, and in value stands next to Sea Island and long-stapled Egyptian. Maranhão, Bahia, and Maceio are varieties which sell in Liverpool at from 16 to 28 cents per lb. *G. arboreum* is found in India, China, etc., and, as its name imports, is a large tree-like plant. It bears a red flower, and produces a fine yellowish-white wool. Varieties of it have been long cultivated in the United States, and, with the requisite soil and climate, are said to produce a wool somewhat resembling Sea Island.

2. *Cultivation*.—The plant is a very delicate organism, and requires a peculiar soil and climate for its due development. The method of cultivation is much the same in the various countries where the fibre is grown; but the most perfect system is that practiced in the United States. Although the plant is not, strictly speaking, an annual, it is found more profitable to destroy the shrub, after the crop is gathered, and sow new seed every year. The preparation of the land takes place during the winter months. After the ground has been thoroughly plowed, and as soon as all symptoms of frost have disappeared, the soil is laid off into rows varying in width from 3 to 4 ft., according to situation and quality of the soil. The seed is then sown along the centre of the beds in a straight furrow, made with a small plow or opener; but in some plantations the seed is sown in holes from 12 to 18 inches apart. The sowing commences in March, and generally continues through April; but sometimes, owing to late spring frosts, the planting is prolonged to May. The young shoot appears above ground in about eight to ten days, and is then and subsequently weeded and thinned. Blooming takes place about the beginning of June—in early seasons, toward the latter end of May; the average date is about June 5. As a general rule, C. is a dry-weather plant. For plowing, the planter requires just sufficient rain to give the soil a moist and spongy texture. During the early stages of its growth, the crop flourishes best with a warm, steamy sort of weather, with an occasional shower until blooming; too much rain being productive of weeds and wood at the expense of wool, while a severe drought produces a stunted plant forced into too early maturity, and resulting in a small and light-stapled crop. Much, however, depends on the position of the plantation; lands in hilly or upland districts obviously requiring more moisture than those in the plains and river-bottoms. From the date of blooming to the close of the picking season, warm, dry weather is essential. Picking

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generally commences in Aug., occasionally in July, and continues until the occurrence of frost—about the end of Oct. or beginning of Nov.—puts a stop to the further growth of the plant. All the available hands of the plantation, young and old, are called into full employment during the harvest. The C. is gathered into baskets or bags suspended from the shoulders of the pickers, and when the crop has been secured, it is spread out and dried, and then separated from the seeds. The latter process was formerly performed by hand—a tedious operation, by which one hand could clean only a pound or so a day; but since the invention of the saw-gin by Eli Whitney, 1793, the process of cleaning has been both rapid and effectual. This machine is composed of a hopper, having one side formed of strong parallel wires placed so close together as to exclude the passage of the seeds from within. The wool is dragged through the apertures by means of circular-saws attached to a large roller, and made to revolve between the wires, the seeds sinking to the bottom of the hopper. This process is adopted only in cleaning the short-stapled varieties of American C., the seeds of which adhere so firmly to the wool as to require a considerable amount of force to separate them. The Sea Island variety is cleaned by being passed through two small rollers, which revolve in opposite directions, and easily throw off the hard smooth seeds. In India, though the saw- and other machine-gins have been introduced in some districts, the wool is mostly cleaned by means of the primitive roller. Both descriptions of gins are used in Egypt and Brazil. The C. cleaned by the roller-gin, being uninjured thereby in staple, realizes the better price; but the deterioration caused by the saw-gin is compensated for by the greatly increased quantity cleaned; the latter turning out four or five times as much work as the former in an equal space of time, and thereby considerably reducing the expense of cleaning. The introduction of improved gins has very largely increased the production of cotton in Egypt and Brazil during the past 14 years.

3 Production and Distribution.—The oldest C.-producing country is India, in which empire the plant has been grown and manufactured from time immemorial. Early mention is made of it in the annals of Egypt also, and it is believed to have a high antiquity in all parts of Africa. In the western world, it was found by Columbus, but was not so extensively cultivated as in the east; though during the past half-century the culture there has outstripped, both in quantity and quality, the produce of the Old World. Down to the commencement of the present century, the C. consumers of Europe were dependent upon the E. and W. Indies and the Levant for their raw material; but the inventive genius, superior farming, and greater energy brought to bear on the culture in the United States, had, prior to the war of secession, almost secured the monopoly of supplying the manufactures of Great Britain and the European continent with this valuable fibre. The average import of American cotton into Great Britain, 1858–60, reached 79 per

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cent. of the entire arrivals; during the war the proportion fell to $3\frac{1}{2}$ per cent.; but in 1871, it rose to 58 per cent.

History of the Cotton Trade.—United States.—The introduction of the plant is traced as far back as 1536, but the export trade did not commence until two and a half centuries later, the first shipment of importance being about 2,000 lbs. in 1770. In 1791, the amount reached 189,316 lbs. In 1793, the invention of the saw gin gave a new stimulus to the trade, and in 1800, the exports reached 17,789,803 lbs.; from which period the shipments have continued to increase, being over 124 000,000 lbs. in 1821, 277,000,000 lbs. in 1831, 530,000,000 lbs. in 1841, 927,000,000 lbs. in 1851, and about 2,160,000,000 lbs. in 1860. Simultaneously with this rapid increase in production, there was, down to 1851, a gradual decline in the price of the wool, in consequence of improved processes of cultivation and cleaning, and the cheapening of carriage, etc.; the average price in Liverpool, in 1793, being 1s. 6d. per lb.; in 1801, 2s. 2d.; in 1811, 1s. 2d.; in 1821, 9½d.; in 1831, 6d.; in 1841, 6¼d.; in 1851, 5½d. per lb.; from which period, however, the downward course was not only checked, but a movement in the opposite direction commenced, the average for 1856–61, being 7d. per lb.; the low prices current having caused consumption to overtake production. The outbreak of the civil war in 1861, and its continuance until 1865, completely revolutionized the industry of the South. The abolition of slavery added materially to the cost of producing cotton; and this, with the general rise which has taken place in values of all kinds during the past 12 or 15 years, has raised the price at which it will pay to sell American cotton in Liverpool to nearly 8d. per lb., against an average of 7d. per lb. for the five years ended with 1861. During the war, middling Orleans touched 2s. 7½d. per lb. In 1867, Dec., there was a decline to 7½d.—every one expecting a return of old prices; in a few months, there was a reaction to 1s. 1d. Since then the tendency has been downward; the average for 1875 being 7½d., against 8d. in 1874, and 9d. in 1873.

The following table is interesting as showing the wide fluctuations which have taken place in the exports of cotton from the United States during the 12 years ending in 1871, expressed in *millions* of lbs. In 1871–2, there was a reduction to 933,000,000 lbs., owing to a failure of the crop.

	Weight, lbs.	Average price, cents.		Weight, lbs.	Average price, cents.
1859–60.....	1767.6	10.85	1865–66	650.6	43.24
1860–61	307.5	11 07	1866–67.....	661.5	30.1
1861–62.....	5.0	23.30	1867–68.....	784.3	19.2
1862–63	11.4	58.43	1868–69.....	644.3	24.9
1863–64	10.8	83.43	1869–70.....	900.4	23.3
1864–65.....	6.6	86.58	1870–71.....	1462.9	11.3

In 1874–5, the weight exported was about 1,178,700,000 lbs.; in 1878–9, 1,628,400 000 lbs., and in 1879–80, 1,822, 000.000 lbs.

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STATEMENT OF THE PRODUCTION, DISTRIBUTION, AND AVERAGE PRICE OF FIFTY CROPS (1826-75) OF COTTON IN THE UNITED STATES, ACTUAL AND PROPORTIONAL, IN AVERAGE PERIODS OF FIVE YEARS EACH (EXPRESSED IN THOUSANDS OF BALES).

Periods of Five Years.	Average Produce of						Average Total Crop.	Proportional Produce of					
	Georgia via Savannah.	S. Carolina via Charleston.	N. Carolina and Virginia.	Florida via Apalachicola, &c.	Alabama via Mobile.	Louisiana, Miss., Ark., Tennessee, and Texas.		Georgia.	S. Carolina.	N. Carolina and Virginia.	Florida.	Alabama.	Louisiana, etc.
1826-30.	216	152	91	4	84	302	849	251	177	103	52	97	351
1831-35.	252	194	69	29	143	424	1111	222	172	60	25	128	388
1836-40.	267	249	44	96	295	673	1624	161	150	29	57	181	411
1841-45.	246	314	28	141	421	874	2024	121	150	11	77	201	431
1846-50.	285	341	21	161	410	993	2211	121	151	11	77	181	441
1851-55.	338	449	42	168	508	1377	2882	111	151	11	57	171	471
1856-60.	400	458	63	154	646	1900	3621	121	111	11	44	171	521
1866-70.	371	192	188	56	314	1299	2420	151	81	22	22	131	531
1871-75.	604	375	469	14	329	1939	3730	161	101	121	22	87	521

Periods of Five Years.	Average Exports to				U. S. (N. of Virginia only).	Average Stock at close of Season.	Total Average Deliveries.	Proportional Distribution of Total Average Deliveries.				Average Price p. lb. of Whole Crop.	
	Great Britain.	France.	Other Foreign Ports.	Total.				Great Britain.	France.	Other Foreign ports.	Consumption of United States.	Five Years.	In 1875.
1826-30.	539	173	46	758	114	35	872	61	197	51	13	101	91
1831-35.	673	202	41	916	193	56	1109	60	184	33	17	111	161
1836-40.	966	308	88	1362	255	54	1617	59	191	51	15	121	81
1841-45.	1181	347	172	1700	325	91	2025	58	171	81	16	121	51
1846-50.	1180	308	229	1717	477	163	2194	53	141	101	21	81	111
1851-55.	1595	387	323	2305	576	126	2881	55	131	111	20	91	81
1856-60.	1970	464	485	2919	678	119	3597	54	127	131	187	111	101
1866-70.	1234	237	206	1677	798	95	2475	49	91	81	321	281	231
1871-75.	1898	261	507	2666	1062	85	3727	50	71	131	281	—	—

The figures between 1861-65 were disturbed by the war. Until a few years before the war, the bulk of the crops grown in the various states were shipped at the several ports of each state—Alabama C. at Mobile, Georgia C. at Savannah, and so on; but the more general introduction of railways has diverted a great deal of C. from the old channels. The increase under the head ‘N. Carolina and Virginia’ is owing almost entirely to this cause. One of the most remarkable features in the last line of the above table is the large proportionate increase in the consumption of the United States.

Cotton seed is remarkably rich in oil, now used for a variety of purposes. The crop of C. seed in the United States amounts to about 3,000,000 tons, or 180,000,000 bushels; in

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1881, the oil-mills consumed 180,000 tons in the manufacture of C., seed oil, while less than half of the remainder was used for fertilizers, for seed, and for feeding stock (the residue being totally lost). C.-seed cake or meal is especially rich in nutritious matter for farm-stock, causing cattle to fatten rapidly, and producing very rich milk (though the butter is not improved). Boiled C. seed, with hay or straw, is admirable feeding. The oil is admirable for culinary purposes, and is said to be equal to the best lard.

East Indies.—After the United States, the most extensive C.-producing country is India. The plant is indigenous to the soil, and the culture and manufacture have existed from prehistoric times. A century ago, the western world was almost entirely dependent upon the east for its C. goods, but within the past hundred years the order of things has been almost reversed. The mills of Lancashire, England, and those of New England and other parts of the United States are now in successful competition with the famed looms of India, and the natives of that vast empire find it cheaper to take English calicoes in exchange for their raw C., than it is to manufacture their own clothing. The first import of East Indian C. into Great Britain was in 1783. The average receipts, from that year to 1792, were 65,550 lbs.; from 1793 to 1800, 2,223,039 lbs.; 1801 to 1810, 6,357,000 lbs.; 1811 to 1820, 24,016,805 lbs.; 1821 to 1830, 18,835,567 lbs.; 1841 to 1850, 79,815,403 lbs.; and 1851 to 1859, 23,017,310 lbs. In 1820, only 224 pounds weight of C.-yarn, and 14,191,177 yards of goods, were exported from Britain to India; but in 1880, the figures, including shipments *via* Suez, were 44,000,000 lbs. yarn, and 1,670,000,000 yards of calico. It is impossible to ascertain the total amount of C. raised in India; but the fibre is grown all over the peninsula, and is used for all the purposes for which we employ C., flax, wool, and mostly hemp. The following figures give some idea of the extent of the export branch of the Indian cotton-trade; they show also the expansion incidental to the American war.

WEIGHT AND VALUE OF COTTON EXPORTED FROM INDIA.

	lbs.	£		lbs.	£
1857.....	319,653,524	4,437,949	1866.....	803,150,424	35,587,389
1860.....	345,953,569	5,637,624	1869.....	691,196,905	19,778,924
1863.....	473,678,421	18,779,040	1872.....	809,246,087	21,272,430

Prior to the civil war in America, the supply of C. from India was merely supplementary to that from the United States. With a small crop in America, prices advanced, and the imports from India increased; but with a large American yield, prices drooped, and their receipts from India fell off; the surplus produce finding its way to China, or being consumed in the interior. This is in a measure still the case (as is shown in the above figures), though not to the same extent as formerly. By the introduction of improved methods of cultivation, cleaning, etc., the quality of Indian C. has been greatly improved; and it is now much more generally used than it was 12 or 15 years ago. In 1879-80 the E. Indies exported 1,189,000 bales to Europe;

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1880, had 13,307 looms, 1,471,000 spindles, and 39,537 persons employed in C. manufacture; 1887-88, produced 1,508,000 bales; and 1887, had 2,420,000 spindles in operation.

Brazil.—The C. trade of Brazil has had extraordinary development during the past ten years, owing to the impetus given to the cultivation of the plant during the American war, and to the general adoption of the saw gin in place of the roller-gin; this substitution of the American gin has produced quantity at the expense of quality; but the demands of fine spinners have been met by increased supplies from Egypt. The subjoined statement shows the progress made by this branch of Brazilian trade:

EXPORT OF BRAZIL COTTON TO EUROPE.

	Bales.		Bales.
1831-1835, average.....	175,000	1861-1865, average.....	201,000
1841-1845, ".....	105,000	1866-1870, ".....	614,000
1851-1855, ".....	149,000	1871-1874, ".....	723,000

In 1874-5 the exports to Europe amounted to 615,000 bales; 1875-6, rose to 647,000; and 1879-80 fell to 161,000.

Egypt.—The C. plant has been known in Egypt from time immemorial; but the trade, properly so called, was first introduced by the celebrated Mehemet Ali, about 50 years ago. The first exportation took place 1821, and amounted to 944 cantars. During the seven years ending 1827, 1,011,697 cantars were produced, or 144,528 cantars per annum. In the next septennial period, there was a falling off, owing to the withdrawal of a large number of laborers to carry on the wars of the pasha in Soudan, etc., and Syria; the exports therefore only reached 900,521 cantars, or 128,646 per year. The transactions of the subsequent seven years show considerable improvement, the total shipments being 1,498,042 cantars, and the annual average 214,006 cantars. During the years 1842-48, the total rose to 1,549,909 cantars, being an annual average of 221,415 cantars. Since then, the trade has continued to augment. The average shipments of the years 1849-59 were 473,282 cantars. The cantar is equal to 94 lbs., and there are about $5\frac{1}{2}$ cantars to the bale of the present (1873) average size; so that the exports in 1849-59 represented 86,000 bales per annum. In 1865, the shipments reached 406,000 bales; in 1875 they amounted to 347,000 bales—or 2,020,000 and 1,908,000 cantars respectively. Great Britain is the principal consumer of Egyptian C., after which is Austria, then France. The following figures show the destination of the C. exported from Alexandria during the six years ending 1875, Sep. 30.

EXPORTS TO

	England.	France and Spain.	Austria and Italy.	Total.
1870.....	177,631	26,356	26,735	230,722
1871.....	246,513	14,974	52,391	313,878
1872.....	274,921	22,577	43,967	341,465
1873.....	299,082	35,251	50,580	384,913
1874.....	312,172	54,540	43,545	410,257
1875.....	273,019	34,644	39,651	347,314

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Egypt produced 440,600 bales (1878-9), 446,870 (1879-80), and 416,000 (1887-8); and exported to Europe (1876-7) 202,000 bales, (1877-8) 156,000, (1878-9) 119,000, and (1879-80) 123,000.

Other Countries.—C. is grown in many other countries beside those above reviewed. During the infancy of the trade, British spinners received 75 per cent. of the C. consumed from the W. Indies, and the remainder from the Levant; with the great expansion of the culture in the United States, the supplies from the W. Indies gradually fell off, the planters finding it more profitable to occupy their labor and capital in the production of sugar and other growths. Early in the present century, the exports to Great Britain from the W. Indies averaged 80,000 bales per annum; but by 1858, they had dwindled to 6,500 bales, of which only about 2,200 bales were from the W. Indies, properly so called. Under the stimulus of the high prices during the C. famine, the supplies to Great Britain from miscellaneous sources—that is, from all countries except the United States, East Indies, Brazil, and Egypt—rose from 6,500 bales in 1858, and 9,800 in 1860, to 23,000 in 1863, and 131,000 in 1865. With the decline in prices, the import fell to 100,000 in 1868. There was an increase to 166,000 in 1872, owing to the high prices in that year, but the increase was chiefly from Peru. Since that year, with a falling market, the import from ‘other countries’ has annually diminished, being only 89,000 bales in 1875, against 166,000 in 1872. the decrease, like the previous increase, being principally in Peruvian. Twenty years ago, Peruvian cotton was almost unknown in the Liverpool market; in 1864, the imports reached 27,000 bales; in 1872 they amounted to nearly 105,000 bales; but in 1875, they fell to 56,000 bales.

4. *Consumption in Europe and the United States.* An immense quantity of C. is consumed annually in India, China, and Africa, but there are no means of ascertaining even an approximation of the amounts so used. There are 11 spinning and weaving mills in Bombay, containing 404,000 spindles, and 4,294 looms; and there are 8 mills in other towns of the presidency. ‘These,’ says an official report (1873), ‘are quite independent of the old native manufactories, and were started entirely in consequence of the inferiority of the piece goods imported from Manchester.’ This inferiority was occasioned by the excessive and deleterious method of sizing adopted during the C. famine, in order to meet the demand for low-priced goods, and is a matter which has lately occupied the serious attention of the Manchester chamber of commerce. Besides the mills in the Bombay presidency, factories have been erected in the Bengal and Madras presidencies, and in the N. W. and Central Provinces; a considerable native manufacture is carried on also in Burmah.

Great Britain.—The origin of the C. trade of the continent dates as far back as the 10th c., at about which period the staple was introduced into Spain by the Mohammedans. Since that time, the manufacture has continued to expand,

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more or less, until it has arrived at its present gigantic proportions. Though we have early mention of C. goods in the annals of almost every country of Europe, still the progress of the trade was very slow until within the past hundred years. Indeed, before the middle of the 18th c., C. goods, properly so called, were never produced—the fabrics manufactured being a mixture of either C. and linen, or C. and wool, C. yarn being used for weft only. It is from the dates of the patents of Wyatt (spinning by rollers, 1738), Arkwright (water-frame, 1769), Hargreaves (jenny, 1770), Crompton (mule, 1779), and Cartwright (loom, 1785), that the rise of the modern manufacture must be dated. The stimulus given to the trade of Britain by these inventions was instantaneous, and when adopted on the continent, a few years after their utility had been sufficiently proved, similar effects followed there. The following figures give an idea of the rapid increase in consumption of C. in Great Britain :

IMPORT OF COTTON WOOL INTO GREAT BRITAIN.

	United States.	Total of all kinds.
Year.	lbs.	lbs.
1701	none	1,976,339
1751	none	2,976,610
1771, one year after Arkwright's loom and Hargreaves' } jenny.	none	4,764,589
1780, year after Crompton's mule	none	6,766,613
1785	none	18,400,384
1791	189,316	31,447,605
1794, year after the invention of the saw-gin. }	487,600	19,040,929
1800		43,379,278
1820	89,999,174	151,672,655
1840	487,856,504	592,488,010
1860	1,115,890,608	1,390,968,752
1871	1,038,677,920	1,778,139,776
1875	816,223,920	1,458,598,470

The imports of cotton into Britain, 1880, were 1,628,664,576 lbs., valued at £42,772,088. The following table furnishes particulars of the imports, exports, and home consumption of C. in Britain in periods from 1801 to 1875 :

SUPPLY AND CONSUMPTION OF RAW COTTON IN GREAT BRITAIN, IN THOUSANDS OF BALES, 1801—75.

Average Periods of Ten Years.	Import.						Export.	Home Con- sumption.	Total Deliveries.
	United States.	Brazil.	Egypt.	West Indies, etc.	East Indies.	Total.			
1801—10....	127	72	..	81	19	299	8	291	299
1811—20...	159	130	..	54	70	413	31	346	377
1821—30...	436	144	36	26	54	696	65	630	695
1831—40....	818	128	31	25	131	1130	97	1014	1111
1841—50....	1190	113	52	13	209	1577	176	1403	1579
1851—60 ...	1778	125	106	9	432	2450	362	2070	2432
1861—70 ...	907	332	227	80	1405	2951	804	2151	2955
1871—75....	1873	525	397	129	1138	3962	727	3183	3910

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The bales vary considerably in weight. In 1875 the averages were as follow: United States, 439 lbs.; Brazilian, 160 lbs.; Egyptian, 602 lbs.; Smyrna, 370 lbs.; W. Indian, etc., 205 lbs.; Surat, 390 lbs.; Madras, 300 lbs.; and Bengal, 300 lbs. During the C. famine, a considerable quantity of C. was received from China in bales averaging 266 lbs. The comparative statement in the following table shows the relative importance of the various sources of supply—actual and proportional—in 1802; and on the average in 1828–30, 1858–60, and 1874–5. The quantities are given in *millions* of pounds—32·1 equal 32,100,000 lbs.

The factory returns for 1879 state that there were in Great Britain in that year, 43,206,690 cotton spindles, and 514,900 power-looms, and that 482,900 persons were employed in the manufacture. In 1875, the figures were 41,300,000 spindles, 463,000 looms, 479,500 persons. It is said that the buildings and machines have cost £70,000,000, and

	Weight in lbs.			
	1802	1828—1830	1858—1860	1874—1875
America	32·1	173·3	970·3	837·9
Brazil	10·5	30·4	19·4	73·2
Egypt, etc		5·5	40·1	170·2
West Indies, etc	15·0	5·8	10·8	21·2
East Indies and China	2·7	23·2	176·4	386·6
Total	63·6	238·2	1217·0	1480·1

	Proportion.			
	1802	1828—1830	1858—1860	1874—1875
America	53·2	72·7	79·7	56·3
Brazil	17·4	12·8	1·6	4·9
Egypt, etc		2·3	3·3	11·4
West Indies, etc	25·0	2·4	0·9	1·4
East Indies and China	4·4	9·8	14·5	26·0
Total	100·0	100·0	100·0	100·0

that a floating capital of £30,000,000 is employed in carrying on the trade. If we take into consideration the persons employed in the building of the mills and making of the machines, and in the buying and selling of the raw and manufactured material, it will be found that something like 4,500,000 individuals are dependent upon the prosperity of the cotton trade for their livelihood. The total quantity of yarn exported 1880, was 215,000,000 lbs., worth £12,000,000; and the total quantity of calicoes, cambrics, fustians, etc., was 4,495,000,000 yards, worth £57,677,000. Besides these, there were £6,000,000 worth of lace, small-wares, etc.; which raises the total value to £75,677,000.

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France and Alsace.—The first import of C. into France was in 1668—viz.; 350,000 lbs. *via* Marseilles from the Levant. In 1750, the receipts reached 6,978,588 lbs.; but during the wars of the Revolution and the first Empire, little progress was made. In 1815, the import was 36,200,000 lbs.; in 1825, it rose to 55,150,000 lbs.; in 1836, to 118,000,000 lbs.; in 1846, to 159,000,000 lbs.; in 1856, to 211,000,000 lbs.; in 1860, to 270,000,000 lbs. In 1862, the arrivals fell to 127 millions, owing to the stoppage of supplies from America. In 1869, the consumption was estimated at 242 millions; but the war with Germany cut down the figures to 165 millions in 1870, and 185 millions in 1871. In 1874, there was a rise to 208 millions. These latter figures are exclusive of Alsace and Lorraine, which use about 65 million lbs.; making 273 millions for France, as she stood before the war, against 242 millions in 1869. In 1880 the importation of raw C. amounted to 263,000,000 lbs., and there were 5,000,000 spindles in operation, exclusive of Alsace-Lorraine where there were about 1,700,000.

Belgium.—The average import of C. into Belgium, 1836–40, was about 39,500 bales; in 1846–50, 56,600 bales; in 1856–60, 61,000 bales; in 1870, 91,000 bales; in 1874, 127,000 bales; and in 1880, 46,754,000 lbs. In 1874, 91,000 bales were consumed; part of the remainder was forwarded to Germany, Switzerland, or Alsace, and part was added to stock. The number of spindles in Belgium was estimated at 800,000 (1880).

Switzerland.—The trade of this confederation has flourished. In 1833, its consumption was about 6,000,000 lbs.; in 1843, about 22,000,000 lbs.; in 1859, about 28,000,000 lbs.; in 1874, about 52,500,000 lbs. The first spinning-machine was set up at Zurich 1807. In 1826, the number of spindles was 300,000; in 1830, 400,000; in 1835, 650,000; in 1840, 750,000; in 1845, 850,000; in 1850, 950,000; in 1860, 1,350,000; and 1881, 1,850,000, with over 25,000 looms. Prior to the Franco-Prussian war, the Swiss spinners received the bulk of their raw material *via* France, but now they are supplied mainly through Holland and Germany. The manufactured products of Switzerland are well liked, and compete successfully with those of England in the various continental markets. In 1880 the importation of raw C. amounted to 49,000,000 lbs.

Holland.—The C. trade of Holland is chiefly a transit one. The imports, (1872) were 268,000 bales; (1873) 180,000 bales; (1874) 168,000 bales; (1880) 92,698,000 lbs. The deliveries were (1872) 224,000; (1873) 180,000; (1874) 183,000; but only about 28,000 bales per annum were retained for consumption, the remainder passing to Germany, etc. The number of spindles in Holland is about 245,000.

German Empire.—Under this head are included the various political divisions of Germany. The several states have made considerable progress in production of C. fabrics. The C. is received chiefly through the ports of Hamburg and Bremen, but a considerable quantity also is received *via* Holland and Belgium, while a further portion is received into s. Germany from Trieste. The average im-

ports into Hamburg, Bremen, Amsterdam, and Rotterdam, in the five years ending with 1840, reached 109,000 bales; in the five years ending with 1855, they averaged 233,000 bales; in the three years ending with 1874, they averaged 655,000 bales; in 1880 they amounted to 327,000,000 lbs. The deliveries in the last named period, however, did not exceed 644,000 bales—the remainder being retained in stock. The number of spindles in Germany (1846) was about 815,000; (1858) 2,000,000; (1874) 3,500,000, besides 1,700,000 in Alsace; total, 5,200,000; and (1881) in Germany alone 4,815,000. The Germans consume nearly the whole of their own produce, and besides are large buyers of English yarns and goods. The leading seat of the manufacture, after Alsace is Saxony; then follow Bavaria, Prussia, Baden, Württemberg, etc.

Austria.—In the C. trade, Austria has made the least progress of any country on the continent. In 1854, there were in all Austria, including Lombardy and Venice, about 1,533,000 spindles; while in 1872 (including the Italian provinces for the purpose of comparison) there were only 1,900,000—an increase of only 24 per cent. in 18 years.—In 1881, the number in Austria-Hungary was estimated at 1,765,000. The manufacturers receive nearly the whole of their raw material *via* Trieste. The deliveries from that port averaged about 82,000 bales in the five years ending with 1840; 107,000 in 1851–55; 125,000 in the three years ending with 1874, and aggregated 153,000,000 lbs. 1880, when the number of spindles was reported at 1,750,000, looms 29,546. The C. trade of Trieste has increased considerably since the opening of the Suez Canal, by which means the spinners of Austria and s. Germany have been brought into direct communication with India. Formerly, a large quantity of C. was annually imported to Trieste from Liverpool, but the success of M. Lesseps' enterprise has entirely destroyed this branch of trade.

Italy.—The statistical materials relating to this part of the continent are very scanty. The imports into Genoa and Naples, 1851, amounted to about 31,000 bales; in 1860, they reached 94,000, but a portion of this was forwarded to Switzerland and other places. In 1870, the import was only 47,000 bales; in 1871, the figures reached 92,000; in 1874, fell to 64,000; and, 1880, rose to 95,000,000 lbs. There are considerable imports also into Venice and Naples. The number of spindles in Italy was estimated, 1881, at 985,000.

Spain.—The C. trade of Spain is the oldest in Europe, but until recently has made the slowest progress of any. During the past 25 years, however, it has greatly improved. In 1850, the annual consumption was only about 80,000 bales; (1860) 106,000; (1870) 152,000; (1874) 189,000. In 1880 the importation of raw C. amounted to 91,000,000 lbs.; there were 1,800,000 spindles in operation, which increased to 1,835,000, 1881.

Russia.—The C. manufacture of this empire is of comparatively recent origin. The imports of raw C. in 1824–26 (average of three years) were only 2,700,000 lbs.; in 1833–35 they reached 6,200,000 lbs.; in 1845–47, 28,000,000 lbs.;

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in 1853-55, 55,000,000 lbs.; in 1858-60, 94,000,000 lbs.; in 1869-70, 100,000,000 lbs., besides a considerable quantity from Bokhara, say 15,000,000 to 20,000,000 lbs.; and, 1880, 175,000,000 lbs. In 1879 there were 84,956 mechanical looms in operation and 178,094 persons employed, and, 1881, the number of spindles was reported at 3,640,000.

Sweden, etc.—There are in Sweden and Norway about 810,000 spindles. The coarser sorts of yarn are produced, and the annual consumption of C. is about 18,000,000 lbs.; 20,000,000 lbs of raw material was imported, 1880.

United States.—About four-fifths of all the C. product of the world is grown in the United States. It is generally understood that the first attempt to raise it was made in Va. as an experiment, 1621; and it is interesting to note that while its cultivation is now confined exclusively to the states and islands of the south, its earliest progress was toward the north. It was grown in small quantities and for individual domestic use in Md., Del., N. J., Penn., and N. Y., long before it reached the proportions of a distinctively southern staple. Seeds from the n. were planted in Ga., and the Carolinas, 1733, and in La., 1742, and the first exports were made from Charleston, 1747, followed by others from N. Y., Md., Va., and N. C., 1770. The first C.-mill built in the United States was in 1791, a year that yielded 2,000,000 lbs. of the staple; the second, 1795, when the exports amounted to 6,276,300 lbs., and the imports 4,107,000; the third, 1803, when the crop was over 50,000,000 lbs., and the export nearly 30,000,000; the fourth, 1804; followed by 11 more mills during the next three years. The following table gives statistics of cotton manufacture in the Southern States in 1900:

States.	Mills in Operation.	New Mills.	Spindles.	Consumption Bales.
Alabama	44	10	437,200	154,841
Arkansas	4	1	17,160	2,394
Louisiana.....	5	3	62,222	318,302
Missouri	4	.....	15,744	26,008
Texas.....	6	6	60,876	15,695
Georgia.....	86	41	969,364	21,440
Kansas.....	1	.....	2,000	3,720
Kentucky	10	.....	68,730	442,508
Mississippi.....	10	9	88,584	489,559
North Carolina.	190	34	1,264,509	34,882
South Carolina.	93	27	1,693,649	16,868
Tennessee	32	8	155,997	186
Virginia	15	.....	165,452	44,595
Total.....	500	139	5,001,487	1,570,998

In 1902 the production was 10,827,168 bales of 500 pounds each; Texas producing 2,587,299 bales; Georgia, 1,509,199 bales; Mississippi, 1,451,626 bales and Alabama, 1,011,325 bales. The produce of the United States had almost driven the growth of every other country out of the market; and, in 1846, the exports to Europe from the United States represented 86 per cent. of the total arrivals. The great decline in values naturally led to a serious reduction in the rate of

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production, which reduction was further aggravated by unfavorable seasons in the South, and in 1846 the exports from the United States fell to 401 million pounds, and in 1847 to 364 millions, against 626 millions in 1845. Then followed a sharp reaction in prices, and ultimately an important recovery in the amount of supply. Between 1845 and 56, however, consumption encroached upon production to such an extent, that the stock in Europe at the close of 1856 was only 439,000 bales, or about six weeks' consumption, against 1,219,000 bales, or 27 weeks' requirements, at the end of 1845. In the autumn of 1857, therefore, middling Orleans touched 9½*d.* per pound. Thence to 1860, there was a gradual recovery in stocks, and a corresponding decline in prices; but even at the end of 1860, the stock was only 782,000 bales, or about 9½ weeks' consumption, and though middling Orleans had, in the interval, declined to slightly below 6*d.*, the average price for the five years ending with 1861 was 7*d.* per pound. Then followed the war of secession, with effects already noted.

The following tables, showing (1) the C. product of the world; (2) the C. consumption of the world; (3) the number of spindles in the world; (4) the number of looms and operatives employed in the C. manufacturing industry in the world; and (5) the deliveries of C. to Europe, compiled from the latest available reports, indicate the high position that the United States occupy in the production, manufacture, and supply of this great staple:

COTTON PRODUCT OF THE WORLD.

COUNTRIES.	BALES.		
	1893-4.	1894-5.	1896-7.
America.....	8,177,000	8,248,000	8,853,000
East Indies.....	1,250,000	1,100,000	830,000
Other countries.....	930,000	1,192,000	1,043,000
Total.....	10,357,000	10,540,000	10,726,000
Average weight, lbs	468	468	483
Bales of 500 lbs.....	9,705,000	9,804,000	10,355,000

COTTON CONSUMPTION OF THE WORLD. (BALES.)

BALES, ETC., AT 500 LBS.	1890-1.	1894-5.	1895-6.	1896-7.
Great Britain.....	3,384,000	3,250,000	3,276,000	3,265,000
The Continent.....	3,631,000	4,030,000	4,165,000	4,264,000
Total Europe.....	7,015,000	7,280,000	7,441,000	7,529,000
Total United States.....	2,367,000	2,743,000	2,572,000	2,738,000
Total World.....	9,382,000	10,023,000	10,013,000	10,267,000

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The following table shows the highest and lowest price of C. in the United States, in cents per lb., 1836-97 (the prices 1862-77 are on a gold basis, the others currency):

Year.	Highest.	Lowest.	Year.	Highest.	Lowest.
1836.....	20	12	1867.....	36	15
1837.....	17	7	1868.....	33	16
1838.....	12	9	1869.....	35	25
1839.....	16	11	1870.....	26	15
1840.....	10	8	1871.....	25	15
1841.....	11	9	1872.....	25	18
1842.....	9	7	1873.....	21	13
1843.....	8	5	1874.....	19	15
1844.....	9	5	1875.....	17	13
1845.....	9	4	1876.....	13	11
1846.....	9	6	1877.....	13	11
1847.....	12	7	1878.....	12	9
1848.....	8	5	1879.....	13 $\frac{1}{4}$	9 $\frac{1}{4}$
1849.....	11	6	1880.....	13 $\frac{1}{4}$	11
1850.....	14	11	1881.....	13	9 $\frac{7}{8}$
1851.....	14	8	1882.....	13	11 $\frac{5}{8}$
1852.....	10	8	1883.....	11 $\frac{1}{8}$	10
1853.....	11	10	1884.....	11 $\frac{7}{8}$	10 $\frac{1}{8}$
1854.....	10	8	1885.....	11 $\frac{1}{2}$	10
1855.....	11	7	1886.....	9 $\frac{9}{16}$	8 $\frac{1}{16}$
1856.....	12	9	1887.....	11 $\frac{1}{16}$	8 $\frac{5}{8}$
1857.....	15	13	1888.....	10 $\frac{1}{16}$	9 $\frac{1}{16}$
1858.....	13	9	1889.....	11 $\frac{1}{16}$	9 $\frac{1}{8}$
1859.....	12	11	1890.....	12 $\frac{5}{16}$	9 $\frac{3}{4}$
1860.....	11	10	1891.....	10 $\frac{9}{16}$	7 $\frac{3}{8}$
1861.....	28	11	1892.....	8 $\frac{3}{16}$	6 $\frac{1}{4}$
1862.....	68	20	1893.....	9 $\frac{9}{16}$	6 $\frac{5}{8}$
1863.....	88	54	1894.....	8 $\frac{1}{8}$	6 $\frac{7}{16}$
1864.....	1.90	72	1895.....	7 $\frac{3}{4}$	5 $\frac{1}{8}$
1865.....	1.22	33	1896.....	8 $\frac{1}{16}$	6 $\frac{1}{16}$
1866.....	52	32	1897.....	8 $\frac{1}{2}$	6 $\frac{1}{16}$

In the healing art, C. and the cloth and wadding made from it are used for wrapping up and keeping warm, and of late, much more than formerly, for binding up burns and wounds. A prejudice formerly prevailed against the use of C., as irritating to wounds; but experience has shown this opinion unfounded, and C. is now used in many hospitals quite as freely as linen.

Cotton Manufacture.—It has already been remarked that the modern system of C. manufacture dates no further back than about 1760. Prior to the mechanical inventions of Hargreaves, Arkwright, Crompton, and Cartwright, the arts of spinning and weaving were entirely domestic, and the instruments of manipulation much the same as those which had been in use in the East for centuries before. By means of the ancient distaff and spindle, or the more recent spinning-wheel, only *one* thread at a time was produced, and the process, as may be imagined, was tedious, and not very remunerative; besides which, only a very inferior yarn was the result; for while a tolerable thread could be spun from flax, the produce of C. was soft, weak, and uneven, and in weaving was used for *wefl* (or *transverse* yarn) only, with linen, woolen, or worsted for the *warp* (or *longitudinal* yarn). Altogether, in the middle of the

COTTON.

U. S. IMPORTS AND EXPORTS, 1830-1902

Fiscal Years.	C. Manufactures.		Raw C.
	Imports.	Exports.	Exports.
1830.....	\$7,862,326	.....	\$29,674,883
1831.....	16,090,224	\$1,126,313	25,289,492
1832.....	10,399,653	.....	31,724,682
1833.....	7,660,449	.....	36,191,105
1834.....	10,145,181	.....	49,448,402
1835.....	15,367,585	2,858,681	64,961,302
1836.....	17,876,087	2,255,734	71,284,925
1837.....	11,150,841	2,831,473	63,240,102
1838.....	6,599,330	3,758,755	61,556,811
1839.....	14,908,181	.....	61,238,982
1840.....	6,504,484	3,549,604	63,870,307
1841.....	11,757,036	3,122,546	54,330,341
1842.....	9,578,515	2,970,690	47,593,464
1843.....	2,958,796	3,223,550	49,119,806
1844.....	13,236,830	2,898,780	54,063,501
1845.....	13,360,729	4,327,928	51,739,643
1846.....	12,857,422	3,545,481	42,767,341
1847.....	14,704,186	4,082,533	53,415,848
1848.....	17,205,417	5,718,205	61,998,294
1849.....	15,183,759	4,923,129	66,396,967
1850.....	19,681,612	4,734,424	71,894,616
1851.....	21,486,502	7,241,205	112,315,317
1852.....	18,716,741	7,672,151	87,965,732
1853.....	26,412,243	8,768,894	109,456,404
1854.....	32,477,106	5,535,516	93,596,220
1855.....	15,742,923	5,857,181	88,143,844
1856.....	24,337,504	6,967,309	128,382,351
1857.....	28,114,924	6,115,177	131,575,859
1858.....	17,574,142	5,651,504	131,386,661
1859.....	26,026,140	8,316,222	161,434,923
1860.....	9,079,676	10,934,796	191,806,555
1861.....	24,722,079	8,059,549	34,051,483
1862.....	8,904,051	2,946,464	1,180,113
1863.....	14,121,589	2,906,411	6,652,405
1864.....	14,341,501	1,246,216	9,895,854
1865.....	7,324,438	3,323,637	6,836,400
1866.....	27,652,413	1,780,165	281,385,223
1867.....	23,872,474	4,608,235	201,470,423
1868.....	16,668,382	4,871,054	152,820,733
1869.....	19,088,783	5,874,222	162,633,052
1870.....	21,900,898	3,787,282	227,027,624
1871.....	26,587,995	3,558,136	218,327,109
1872.....	29,983,671	2,304,330	180,684,595
1873.....	31,810,680	2,947,528	227,243,069
1874.....	24,922,254	3,095,840	211,223,580
1875.....	24,199,793	4,071,822	190,638,625
1876.....	19,850,107	7,722,978	192,659,262
1877.....	16,456,296	10,235,843	171,118,508
1878.....	19,398,791	11,435,628	179,031,484
1879.....	12,928,310	10,853,950	162,304,250
1880.....	29,929,366	9,981,418	211,535,905
1881.....	31,219,329	13,571,387	247,695,746
1882.....	34,351,292	13,212,979	199,812,644
1883.....	36,853,689	12,951,145	247,328,721
1884.....	30,454,476	11,885,211	197,015,204
1885.....	28,152,001	11,836,591	201,962,458
1886.....	30,381,774	13,959,934	205,086,742
1887.....	29,474,281	15,090,060	206,310,995
1888.....	28,917,799	13,013,189	223,016,760
1889.....	26,805,942	10,212,644	237,775,270
1890.....	29,918,055	9,999,277	250,968,792
1891.....	29,712,624	13,604,857	290,712,898
1892.....	28,323,841	13,226,277	258,461,241
1893.....	33,560,293	11,809,355	188,771,445
1894.....	22,346,547	14,340,886	210,869,289
1895.....	33,196,625	13,789,810	204,900,990
1902.....	48,954,284	33,274,907	290,491,225

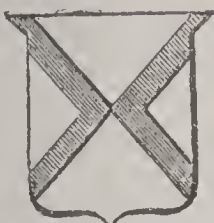


Corymb.



Costrels: 1, Ancient, of earthenware; 2, Ancient, of leather; 3, Modern (W. of England), of earthenware.

Corselet (a) with Morion or headpiece (b), and Tassets or armor for the thighs (c).



Chevron Couché.



Cotyledons: 1, Monocotyledon (seed of *Arum maculatum*); 2, Dicotyledon (seed of *Papaver Rhœas*); 3, Polycotyledon (seed of *Pinus sylvestris*).



Cothurn or Buskin.



Cotton (*Gossypium Barbadense*): a, Ripe capsule after dehiscence; b, A seed; c, The same deprived of its hairs.

COTTON.

CROP AND ACREAGE BY STATES, 1902.

STATES.	BALES.			
	1893.	1894.	1895.	1902.
Alabama.....	810,000	854,122	663,916	1,011,325
Arkansas.....	679,000	709,722	520,860	999,629
Florida....	55,000	48,005	38,722	67,287
Georgia.....	1,000,000	1,183,924	1,067,377	1,509,199
Indian Territory.....	.....	.....	.....	409,591
Kansas.....	.....	.....	.....	45
Kentucky.....	.....	.....	.....	1,308
Louisiana.....	473,000	721,591	513,843	911,953
Mississippi.....	1,050,000	1,167,881	1,013,358	1,451,626
Missouri.....	.....	.....	.....	49,552
North Carolina.....	400,000	454,920	397,752	568,884
Oklahoma.....	.....	.....	.....	218,390
South Carolina.....	650,000	818,339	764,700	948,200
Tennessee.....	276,000	286,630	172,560	328,019
Texas.....	1,997,000	3,073,821	1,905,337	2,587,299
Virginia.....	.....	12,735	7,964	16,575
Total.....	7,390,000	9,331,631	7,066,389	11,078,882

COTTON CROP OF THE UNITED STATES.

	BALES.			
	1893.	1894.	1895.	1896.
Exports—				
Great Britain.....	2,301,000	2,861,000	3,449,000	2,399,000
Continent and Mexico.....	2,089,000	2,371,000	3,277,000	2,328,000
Total	4,390,000	5,232,000	6,726,000	4,627,000
Home Consumption—				
Northern Mills.....	1,652,000	1,580,000	2,019,000	1,605,000
Southern Mills.....	723,000	711,000	852,000	900,000
Total.....	2,375,000	2,291,000	2,871,000	2,505,000
Aggregate Crop	6,664,000	7,532,000	9,837,000	7,147,000

EXPORTS FROM THE UNITED STATES OF UNMANUFACTURED DOMESTIC COTTON.

	United Kingdom. Lbs.	France. Lbs.	Germany. Lbs..	Spain. Lbs.
1887.....	1,356,757,000	233,045,000	280,832,000	69,249,000
1888.....	1,419,262,000	196,098,000	280,312,000	84,665,000
1889.....	1,470,400,000	200,098,000	330,377,000	90,766,000
1890.....	1,452,576,000	242,379,000	418,820,000	87,669,000
1891.....	1,700,606,000	276,550,000	509,571,000	109,418,000
1892.....	1,690,843,000	346,392,000	482,441,000	93,729,000
1893.....	1,181,588,000	284,029,000	425,193,000	100,106,000
1894.....	1,485,451,000	305,426,000	454,694,000	112,682,000
1895.....	1,776,891,000	395,349,000	752,315,000	127,839,000
1896.....	1,133,611,000	239,133,000	519,229,000	108,089,000

18th c., the machinery for spinning was much more imperfect than that for weaving, and the weavers of the time were often at a stand for want of yarn to go on with.

This state of things had long occupied the attention of the thinking portion of the spinners, but without any practical result until the invention of the 'jenny,' by Hargreaves, about 1767. By this machine, eight threads at a time could be spun against the one of the spinning-wheel. Hargreaves was much abused by the populace of his native town and neighborhood, who feared that the invention would deprive them of all employment; the machine was destroyed, and the inventor compelled to leave his birth-place. Genius, however, ultimately triumphed, and the 'spinning-jenny' was patented at Nottingham, 1770. The year previously, Arkwright had patented his 'water-frame,' or 'throstle,' for spinning by rollers, by means of which a stronger and much firmer yarn was produced. It was about this period that fabrics composed entirely of C. were woven for the first time, the 'jenny' supplying the *weft*, and the 'throstle' the *warp*. A few years later, Mr. Crompton brought out a new piece of mechanism, which he styled the 'mule-jenny,' from its combining the principles of both Hargreaves' and Arkwright's patents; but it had an advantage over both, insomuch as it produced a much finer yarn than either. The 'mule' came into full play in or about 1780, which is the period assigned for the beginning of the *muslin* trade. There was now no longer a scarcity of yarn; the fear was, that there would be too much, for it was clear that the hand-loom weavers of the time could not keep up with the improved spinning-machinery. But the invention of the 'power-loom' by Dr. Cartwright, 1785, set aside all doubts in this respect; the question now was, whether a sufficient quantity of raw C. could be obtained to keep pace with the requirements of the rising manufacture. W. India C., which, 1784, averaged 1s. 6d. per lb., rose to 2s. in 1788, 2s. 1d. in 1792, and 2s. 8d. in 1793. Great exertions were made to obtain increased supplies from India; but the invention of the saw-gin in America brought the required succor from an unexpected quarter. It was only by means of this machine that the production of the short-stapled C. of the United States could be made at all remunerative. The export of hand-cleaned C. from the U. S., 1791, was only 189,316 lbs., and in 1792 only 138,328 lbs.; but the year after the appearance of the gin—1794—the exports rose to 1,601,700 lbs.; (1795) 6,276,300 lbs.; (1800) 17,789,803 lbs.

But to return. The first 'mule-jenny' contained about *thirty* spindles, which, instead of being stationary, as in the 'jenny' and 'throstle,' were placed on a carriage, which was moved outward while twisting, to increase the fineness of the thread, and inward again, to wind the yarn on the spindles. This required the constant attendance of a spinner to wheel the carriage forward and backward; but subsequent improvements have gone so far as to produce what is called the self-acting mule, two or three of which together require the assistance of only one person, generally a boy

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or girl, whose place it is to piece any of the threads which may break during spinning. Mules of this construction are made with as many as 1000 or 2000 spindles, sometimes more; and with the self-actor, as now improved, a single thread has been produced measuring upwards of *one thousand miles in length*, and yet weighing but *one pound*!

Processes preliminary to spinning.—The raw material is received from the various producing countries, packed either in bags or square bales. On arrival at the mill, the C. first enters the *mixing-room*, where it is *sorted*, and the various qualities, which are often contained in a single purchase, laid out in layers of equal extent, one over the other, and trodden close together. In this manner, two descriptions of C. are sometimes placed in one mixing. When Surat, for instance, is scarce and dear, and short-stapled low American plentiful and cheap, spinners of what are called coarse numbers invariably use a mixture of both growths; the same of other kinds, provided there is an approach to equality in length of fibre. C. of different shades of color also are sometimes spun together, in order to produce a particular yarn. A quantity of this *bing*, as it is called, is then raked down from the top to the bottom of the side, a portion of each layer being thus secured. This is carried to the *scutching* or *willowing-machine*, by means of which the C. is cleansed from all impurities, such as sand, seeds, leaf, etc. The cleaned C. is then taken to the *spreading-machine*, through which it passes, and is then wound, in a fleecy state, upon a large wooden roller, to be transferred to the *carding-machine*. The latter machine is brought into requisition for the purpose of drawing out the fibres of the C. into parallel layers, so as to facilitate the twisting of them together. Originally, this process was performed by hand. The first improvement was made by Lewis Paul, 1748, and the next by Hargreaves, 1760. Arkwright and subsequent spinners have perfected the machine. The C. was formerly cleaned by hand. The *sliver* is next passed through the *drawing-frame*, which removes all inequalities, and reduces the bands to one uniform thickness. Here also several of the slivers are joined together (called *doubling*), so as to form one continuous cord, which is still further lengthened and increased in fineness by the *roving-machine*, whence it passes on to bobbins ready for *spinning*. For a full description of the various processes above glanced at, see SPINNING: WEAVING. For other branches of the subject, see CALICO-PRINTING: CALENDERING: DYEING: etc.

The finer kinds of yarn are spun from Sea Island and long-stapled Egyptian, and from them are fabricated muslins, laces, etc. From Brazil and the better classes of short-stapled American, come cambrics, calicoes, shirtings, sheetings, etc., and from the inferior qualities of American and Surat are spun the coarse yarns required for fustians and other heavy fabrics. Yorkshire broadcloths are sometimes half cotton. From warps of C., and wefts of wool or worsted, are formed varieties of Orleans cloths, Coburgs, mousselines de laine, damasks, etc. There are also fabrics

composed of silk and C., linen and C., alpaca and C., etc.

Of the total amount of yarn produced, from one-fifth to one-fourth is exported in its raw state. The following figures give an idea of the progress of British export trade in C. yarns and goods:

YARN.			
	Total Spun.	Total Exported.	
	lbs.	lbs.	£
1816.....	78,987,200	15,740,675	2,628,448
1830.....	622,840,000	63,678,116	4,133,741
1845.....	494,766,000	135,766,487	6,963,235
1860.....	965,993,000	197,343,655	9,870,875
1874.....	1,120,525,000	220,599,004	14,516,093

MANUFACTURED GOODS EXPORTED.

	Entered by the Yard.		At Value only.	Total Value of Yarn and Goods.
	Yards.	£	£	£
1816...	189,263,731	12,309,079	746,643	15,684,170
1830....	441,578,498	14,119,770	1,175,153	19,428,664
1845....	1,091,686,069	18,029,818	1,126,288	26,119,341
1860...	2,776,218,427	40,346,342	1,795,763	52,012,380
1874...	3,587,132,479	54,355,800	5,380,477	74,232,370

In 1818, 14,743,675 lbs. of twist were exported from Britain, of which 14,727,882 lbs. went to Europe, and only 1,861 lbs. to India and China: (1843), 149,206,448 lbs. were exported; 128,664,218 lbs. to Europe; 899,746 lbs. to America and Africa; 12,642,484 lbs. to India and China: (1874), of the 220,599,000 lbs. exported, 77,438,000 lbs. went to Germany and Holland, 62,781,000 lbs. to India, China, and Japan: (1880), total yarn exported, 215,544,800 lbs.

In 1820, Germany was the best customer for both British plain and printed cottons. The next largest consumer for *plain* cottons was Italy; then followed the Brazils, United States, Russia, Portugal, E. Indies, Holland and Belgium, W. Indies, etc.; and for *printed* cottons—British W. Indies, United States, Italy, Holland and Belgium, Portugal, E. Indies, Brazil, etc. The Netherlands were the principal buyers of British laces and small wares; then Germany, British W. Indies, Central America, Brazil, United States, E. Indies, Portugal, Russia, Italy, etc. At the present time, the E. Indies take nearly one-third of British exported manufactured goods. For *plain calicoes*, the next best customer for Britain is China; then Turkey, Brazil, Egypt, United States, Portugal, Italy, Germany, etc.; of *printed and dyed calicoes*. Turkey is the largest purchaser; then India, Brazil, Germany, United States, France, W. Indies, Central America, etc. The United States take nearly one-half of the British exports of *lace and patent-net*; then Belgium, France, Holland, Germany, etc. The United States

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take over one-third of British exports of *stockings*, and one-half of the British shipments of other sorts of *hosiery*; then Australia, the Argentine Republic, etc. One-fourth of the *sewing-thread* exported from Britain goes to the United States; then Germany, Brazil, Russia, etc.

Subjoined, is an estimate of the weight and value of the total production of cotton manufactures in Great Britain, with the cost of cotton consumed, and the balance remaining for wages, all other expenses, interest of capital, and profit for the years 1870, 72, and 74 (000's omitted, i.e. 1,071,770=1,071,770,000):

WEIGHT.

	1870. lbs.	1872. lbs.	1874. lbs.
Cotton consumed.....	1,071,770	1,175,345	1,266,129
Waste in spinning.....	129,310	134,965	145,604
Yarn produced	942,460	1,040,380	1,120,525
Exported in yarn.....	186,078	211,940	220,599
Do. piece-goods, etc.....	616,232	698,840	726,000
Consumption and stock.....	140,150	129,600	173,926
Total as above	942,460	1,040,380	1,120,525

VALUE.

Yarn exported.....	£14,671	£16,710	£14,516
Goods, etc., do.....	61,424	69,900	66,934
Consumption and stock.....	17,050	15,660	20,110
Total.....	£93,145	£102,270	£100,560
Cost of cotton consumed...	42,145	48,054	40,225
Left for wages, expenses, profits, etc.	£51,000	£54,216	£60,335

The figures relating to the exports of 'piece-goods, etc.,' include two-thirds of the goods shipped as apparel, haberdashery, etc. The average annual production of yarn and goods for the three years 1870-72, was 1,018,563,000 lbs., distributed as followed:

	lbs.	per cent.
Exported to India, China, Japan, etc., including 47,000,000 lbs. yarn.....	333,000,000	32.70
Exported to all other countries, including 150,166,000 lbs. yarn.....	529,030,000	51.94
Left for Home Consumption and Stock.....	156,533,000	15.36
Total as above.....	1,018,563,000	100.00

In round numbers, therefore, it may be said that one-third of the total British production of cotton goods is exported to the East, one-half to other countries, and one-sixth consumed at home.

With the great improvements in the mechanics of the trade, and the reduced price of the raw material, a gradual but considerable decline has taken place in the cost and price of the fabrics produced. The price of 1 lb. of yarn containing 100 hanks, (1786) was 38s.; (1807) 6s. 9d.; (1829) 3s. 2d.; at the present time, 2s. 6d. The cost of weaving during the last 60 years has been reduced upward of 60 per cent. A species of calico, selling at 6s. per yard toward the close of the last century, can be purchased in our day at as many pence. The average price per yard of goods exported from Britain (1815) was 1s. 5½d.; (1825) 10½d.;

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(1835) $6\frac{1}{2}d.$; (1845) $3\frac{1}{16}d.$; (1859) $3\frac{7}{16}d.$ In 1864, the price rose to $6d.$ per yard, but in 1874 it fell to $3\frac{5}{8}d.$ per yard. The average price per lb. of *yarn* exported (1815) was $3s. 7\frac{3}{4}d.$; (1825) $1s. 11\frac{1}{2}d.$; (1835) $1s. 4\frac{3}{4}d.$; (1845) $1s. 0\frac{1}{4}d.$; (1859) $11\frac{3}{4}d.$ In 1864, the average rose to $2s. 4\frac{3}{4}d.$ per lb.; but, in 1874, fell to $1s. 3\frac{3}{4}d.$ per lb. The most profitable years for spinners are said to have been 1845, 48, 59, 60, and 71.

The earnings of the work-people in Britain have, upon the whole, steadily increased from year to year. The following table furnishes the rates current in 1839, 49, 59, and 75. It will be observed that the proportionate advance during the last-mentioned 16 years was much greater in the lowest than in the highest paid hands:

AVERAGE WEEKLY WAGES.

	1839.	1849.	1859.	1875.
	Week of 69 hours.		Week of 60 hours.	
	s. d.	s. d.	s. d.	s. d.
Steam-engine tenders.....	24 0	28 0	30 0	32 0
Warehousemen.....	18 0	20 0	22 0	26 0
<i>Carding Department—</i>				
Scutchers (women and girls). ...	7 0	7 6	8 0	12 0
Strippers (young men).....	11 0	12 0	14 0	19 0
Overlookers.....	25 0	28 0	28 0	32 0
<i>Spinning on Self-acting Mules—</i>				
Minders.....	16 0	18 0	20 0	25 0
Piecers (women and young men)	8 0	9 0	10 0	16 0
Overlookers.....	20 0	22 0	26 0	30 0
<i>Throstle Spinning—</i>				
Spinners (girls 14 to 18 years)....	4 0	4 6	5 0	9 0
“ (women).....	7 0	7 6	9 0	13 6
Overlookers.....	18 0	20 0	24 0	26 0
<i>Ruling—</i>				
Throstle reelers (women)	9 0	9 6	9 6	12 6
Warpers	22 0	22 0	23 0	26 0
Sizers ...	23 0	23 0	25 0	30 0
<i>Doubling—</i>				
Doublers (women).....	7 0	7 6	9 0	12 6
Overlookers.....	24 0	25 0	26 0	32 0

Other branches show the same ratio of advance.

The following table exhibits the extent of the British manufacture at the close of 1874:

Estimated weight of <i>cotton</i> consumed.....	1,226,129,000 lbs.
“ value of same, at $7\frac{3}{4}d.$ per lb	£40,226,000
“ weight of <i>yarn</i> produced.....	1,120,525,000 lbs.
Declared weight of <i>yarn</i> exported.....	220,599,000 lbs.
“ value of <i>yarn</i> exported ($1s. 3\frac{3}{4}d.$ per lb.)...	£14,516,000
Number of yards of goods exported	3,587,132,000 yards.
Declared value of same ($3\frac{5}{8}d.$ per yard).....	£54,356,000
“ “ other cotton goods exported.....	£5,380,000
Total declared value of all cotton manufactures exported.....	£74,232,000
Total declared value of all British exports.	£297,650,000
Proportion of <i>cotton</i> exports to entire exports per cent.....	25 per cent.
Estimated number of persons employed	479,000
“ average rate of wages per week	13s.
“ total amount of wages paid in twelve months.....	£15,190,000

ESTIMATED FIXED CAPITAL.

Cost of 41,300,000 spindles, at 25s. to 27s. per spindle, inclusive of buildings, etc ..	£53,690,000
Cost of 463,000 power-looms, at £26 each.....	12,038,000
	£65,728,000

COT'TON, GUN: see GUN COTTON.

COTTON, kŏt'n, JOHN: 1585, Dec. 4—1652, Dec. 23; b. Derby, England: patriarch of New England. He was educated in Trinity College, Cambridge; obtained a fellowship in Emmanuel College and became tutor, lecturer, and dean there; was appointed vicar of St. Botolph's church, Boston, Lincolnshire, 1612; and, excepting a brief suspension for refusing to observe some ceremonies of the established church which he believed unscriptural, preached there with great effectiveness till 1632. Then specific charges were preferred against him, and he was cited to appear and answer before Abp. Lared. He declined to obey, fled to London, and thence emigrated to the United States, landing at Boston, 1633, Sept. 4. In the following month he was ordained teacher of the First Church in Boston (organized 1630) and colleague of the Rev. John Wilson, the pastor, and retained his connection with the church till his death. He was eloquent and forcible in the pulpit, an accomplished Greek, Latin, and Hebrew scholar, a strict Sabbatarian, and author of nearly 50 published works, including the noted *The Keys of the Kingdom of Heaven* (1644), and *Milk for Babes* (1646).

COTTON, Sir ROBERT BRUCE: 1570, Jan. 22—1631, May 6; b. Denton, Huntingdonshire, England: distinguished English antiquary, founder of the Cottonian Library now in the British Museum. He was educated at Cambridge, and soon after taking his degree B.A. in his 16th year, he commenced those archeological pursuits which have made his name famous, and proved of such immense value to British historians. The dissolution of the monasteries about half a century before, dispersed many valuable collections of manuscripts into private hands, and C. hunted up and purchased these wherever practicable. On account of his eminent abilities and great knowledge, he was frequently consulted by ministers of state on difficult constitutional points and international questions. In 1600, at the request of Queen Elizabeth, who desired to have the views of the Soc. of Antiquaries on the matter, he wrote *A Brief Abstract of the Question of Precedency between England and Spain*. King James, by whom he was made a knight, employed C. to vindicate the conduct of his mother, Mary Queen of Scots, also to examine whether the Rom. Catholics, on account of whom some alarm was then felt in the nation, should be imprisoned or put to death. C. took the most humane view of the matter. His intimacy with the Earl of Somerset led him to be suspected of complicity in the death of Sir Thomas Overbury, and in consequence he was imprisoned for about five months. In 1629, a tract entitled *A Project how a Prince may make himself an Absolute Tyrant*, was obtained from his library, the tendency of which was considered dangerous to the liberty of the state. His library was accordingly declared unfit for public inspection, and he himself was denied all use of it. His heart being bound up in his library, he pined and died in less than two years afterward.

COTTON FAMINE.

The COTTONIAN LIBRARY, which now forms so important a part of the British Museum, was, after the death of Sir Robert C.'s son and grandson, who augmented it considerably, invested in trustees for the use of the public. In 1730, the library was removed to Ashburnham House, Westminster, where the royal collection was; and in the following year a fire occurred in the house, in which about 114 out of the 958 MS. volumes of which the library consisted were reported as 'lost, burned, or entirely spoiled; and 98 damaged so as to be defective.' Fortunately, however, under the care and intelligence of skilful keepers, a great number of these injured volumes have been restored, so that the library now consists of nearly 900 vols., of which, says Mr. Edwards in his *Memoirs of Libraries*, 'nearly 200 are state papers of the highest value. They include a vast series relating to the diplomatic intercourse between England and almost every state of Europe, extending from the reign of Edward III. to that of James I.; and of these documents, no small proportion consists of the original letters of sovereigns and of statesmen. Even those papers not original have high authority, as being, for the most part, coeval transcripts.' The Cottonian Library was transferred to the British Museum (q.v.) 1757. In addition to the MSS., the Cottonian collection comprises many valuable coins and antiquities.

COTTON FAMINE: decrease of the cotton-supply in Great Britain in 1861 and following years, occasioned by the war of secession in the United States; with its results in manufactures and trade—a striking episode.

The years 1859 and '60, unparalleled for the magnitude of the cotton manufacture, had much to do with the collapse that followed. So rapidly has this branch of industry increased in Lancashire, that the annual number of immigrants into that county from other districts have varied from 10,000 to 20,000 for a long series of years, irrespective of the natural increase of population by the excess of births over deaths. The imports of raw cotton, the exports of manufactured cotton, the number of mills, the number of hands, all were at their maximum in 1860. The imports were 1,391,000,000 lbs., of which 1,054,000,000 were worked up in Great Britain. There were 1,920 mills in Lancashire, 275 in the adjacent portions of Cheshire and Derbyshire, and enough elsewhere to make up a total of 2,650. There were 440,000 hands employed in these mills; by age, 90 per cent. adults and young persons, and 10 per cent. children; by sex, 44 per cent. males, and 56 females. The machinery was worked by steam-engines having an aggregate of 300,000 horse-power. There were more than 30,000,000 spindles, making from 4,000 to 6,000 revolutions per minute; and 350,000 power-looms. The fixed capital in mills and machinery was valued at £54,000,000; while the money paid for wages in that year was £11,500,000. The cotton goods of various kinds manufactured for home consumption used up 180,000,000 lbs. of cotton, and were valued at £24,000,000; while the exported goods—consisting of 2,776,000,000 yards of calico, muslins, etc., and 197,000,000

COTTON FAMINE.

lbs. of yarn—were valued at £50,000,000; besides £2,000,000 more for cotton hosiery and small wares. The total value for home consumption and export, £76,000,000, exceeded the total imperial revenue for that year. The fact that of 1,390,000,000 lbs. of cotton imported, no less a weight than 1,120,000,000 came from the United States, shows the tremendous effect to be expected from any stoppage in the American cotton-trade. Irrespective of this, however, there would have been a stagnation in British manufacturing districts in 1861, even if raw cotton had been plentiful and cheap. The manufacturers had glutted all the markets by the wholly unprecedented extent of their operations in 1860. The English warehouses, as well as those elsewhere, were full; and time was needed to carry off the immense stock. There were cotton goods on hand in Great Britain at the end of the year valued at £20,000,000; while in India British merchants continued to pour in goods even when the consignments of 1860 exceeded £17,000,000.

Fort Sumter was bombarded 1861, April. This was virtually the beginning of the war of secession and of the rise in the price of cotton. A blockade was early established by the Federal government of Washington; and it was only by 'running' this blockade that cotton-laden ships could clear from the Southern or Confederate ports. The price of Middling Orleans (the kind of cotton mostly used, and that which governs the price of all other kinds) rose from 7½*d.* to 9*d.*, 10*d.*, and 12*d.*, as the year advanced. There was thus a twofold motive for lessening the operations of the Lancashire mills—the markets were so fully supplied with manufactured goods, that no immediate augmentation was necessary; while the increase in the price of the raw material rendered manufacturing less profitable than before. The Liverpool dealers made colossal fortunes by the enormous rise in price of every bale of cotton which could reach the country from any quarter; while the manufacturers were also prosperous, because they could sell their accumulated stocks of calicos and yarns at much higher prices than had been obtainable in 1860. It was the operatives who suffered. One by one, the mills were put upon half-time, because the mill-owners had not much inducement to spin and weave, under the extraordinary double influence above adverted to. It was not until autumn, however, that these effects were heavily felt, when there was the enormous quantity of 1,000,000,000 lbs. of cotton, raw and manufactured, on hand in Great Britain. When half-time began at the mills in Oct., there were, in Lancashire and the two neighboring counties, 890 spinning-mills, 593 weaving-mills, 635 spinning and weaving mills, and 151 other cotton-mills of miscellaneous kinds, employing 369,453 factory-hands; and all these four classes of establishments became equally embarrassed. India or Surat cotton could still be had in considerable quantity, at 10*d.* per lb. instead of its former price of 5*d.*; but it was greatly out of favor, on account of its dirty condition, and the shortness and hardness of its staple. In Nov., there were 49 mills stopped, throwing out 8,063 hands, while 119 were working half-time—placing something like 20,000

COTTON FAMINE.

persons on half their usual wages. In Dec., Middling Orleans rose to 12*d*. So singular was the state of things, and so unlike what would be called a 'famine,' under other circumstances, that the actual quantity of raw cotton in Great Britain at the end of the year (280,000,000 lbs.) was greater than ever before known in the history of the trade; but as the market-price of yarns and piece-goods at that time scarcely equaled that of raw cotton *plus* wages, the manufacturer could scarcely operate without a loss; and therefore he either closed his mill, or placed his hands on half-time. It was not so much a famine of cotton as a famine of employment.

The year 1862 opened very gloomily. Relief committees began to be formed in Manchester, Wigan, Blackburn, Preston, and other towns, to distribute subscribed funds to such of the hands as were totally out of work. The streets were thronged with the unemployed; but there was no disturbance, and scarcely any begging. Sewing-schools were established by ladies in the several districts, to teach the factory girls useful domestic needle-work—of which they are generally very ignorant—to get them to make clothes for themselves and others; and to shield them from the vicious temptations which would beset them during a period of idleness. The ladies also won upon the affection of the girls by reading to them, and sympathizing in many ways with their sorrows. Many of the manufacturers set apart large rooms as school-rooms and soup-kitchens for the boys and men, and abundant stores of soup were provided at 1*d*. per basin. The poor-law board sent down instructions to the local guardians how to give as much elasticity as possible to the system of parochial relief. In April, Blackburn had only 18 mills on full-time out of 84, the rest being either on half-time or closed; and there were 9,000 of the inhabitants receiving parochial relief. Most of the other towns were in nearly as bad a plight. In May, matters were worse; Preston had 10,000 operatives out of work, and Blackburn had about half-employment for 27,000. Middling Orleans rose in price to 15*d*., and manufacturers had more inducement to speculate in cotton than to spin it. Meanwhile, great efforts were made to assist the distressed operatives. The letters of a 'Lancashire Lad' in the *Times*, with the text 'Con yo help us a bit?' made a great impression. The *Daily Telegraph* raised a fund of £5,000 by its own exertions. The Lancashire landowners established a 'cotton district relief fund' in London, to which they subscribed £11,000 in one day; the Lord Mayor established a 'Mansion-house committee,' which received subscriptions from all parts of the world; Manchester established a 'central relief committee,' as a nucleus for various local funds; while a great county meeting brought in £130,000, of which £70,000 was subscribed in one day in one room. Mr. Farnall was sent down by the Poor-law board, as special commissioner, to superintend the plans for parochial relief. A Rate-in-aid Bill was passed through parliament, to enable the government to issue orders in council, authorizing parishes to raise

COTTON FAMINE.

money on the guarantee of future rates; it was only to be done where the current poor-rate had already reached a high figure, and the money raised was to be applied strictly to mitigate the distress of the operatives. Notwithstanding all these sources of assistance, the work-people became reduced to great distress. 'The pawnbrokers' stores,' said an eye-witness, 'were glutted with the heir-looms of many an honest family. Little hoards were drained to meet the exigences of the time. Many found it the sorest trial of their lives to ask for food; and it is a happy circumstance for all to remember, as it is honorable to those of whom it is recorded, that none suffered more severely than those who had a struggle to overcome their unwillingness to subsist upon food which they had not earned. Rents were falling in arrears, and many a house which had held only one family, was now occupied by three or four, in order to economize rent fuel, and furniture.' Nevertheless, none died of privation, and the average sickness was even less than usual. It was a fact well ascertained that spirit-drinking was less indulged in than while the out-door poor relief was about £1,000,000 more than in an equal period of average times. During the course of the famine, the losses of the trade amounted to between £65,000,000 and £70,000,000, including from £28,000,000 to £30,000,000 loss of wages to operatives. Of the latter amount about one-fourth was recovered in the form of relief, or in wages for employment in the above public works. In some districts in 1863, the poor-rate rose to nearly 6s. in the £. In the same year, the average rate for the whole of the cotton districts was 2s. 2½d., against only 7½d. in 1861.

The fluctuations in the value and quantity of cotton available during this extraordinary period are strikingly shown in the following parallel columns, relating to the raw cotton imported, and the money paid for it:

	Quantities (Cwts.).	Value.
1860	12,410,000	£35,757,000
1861	11,223,000	38,653,000
1862	4,678,000	31,093,000
1863	5,978,000	56,278,000
1864	7,976,000	78,204,000
1865	8,732,000	66,032,000
1866	12,296,000	77,521,000

It was a gloomy winter, that of 1862-3, for the mill-hands. The import of C. fell to 524,000,000 lbs, against 1,257,000,000 in 1861, and 1,391,000,000 in 1860. In Oct., the loss of wages was estimated at £136,000 per week. In Nov. there were 208,000 persons in the Lancashire district receiving out-door parochial relief, and 144,000 others aided by subscribed funds; there were at the same time 20,000 mill-girls at the sewing-schools. At Christmas, there were 247,000 hands totally out of work, and 165,000 others only partially employed. In the same month, 234,000 persons, or 24 per cent. of the total popu-

COTTON FAMINE.

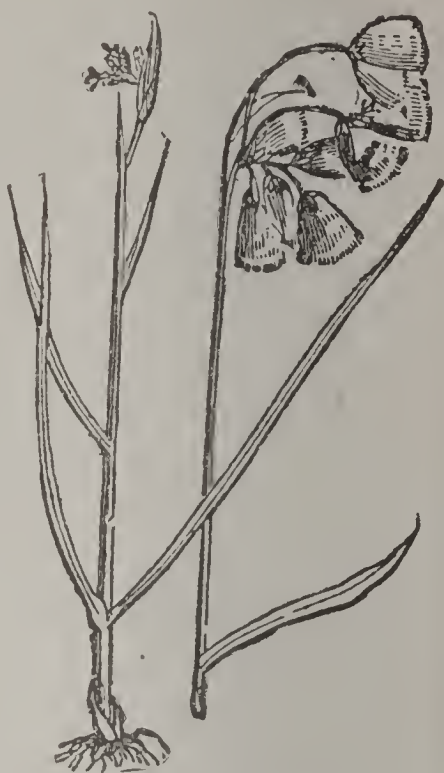
lation of the districts affected, were in receipt of charitable relief. Vast sums were sent from various parts of the world to be spent in winter-clothing only, and prodigious stores of second-hand clothing were contributed by private families. As the money relief seldom exceeded 2s. or 2s. 6d. per week per applicant, to purchase clothing out of this was of course impracticable. The small shopkeepers also suffered greatly; for there was only one-third the amount of wages received by their customers per week that had been received two years before. Emigration schemes were much discussed, but were not carried on very largely, because Lancashire men felt convinced that trade would revive after a time. Meanwhile, the *rate* of wages was not lowered; few mill-owners proposed it, and the operatives were immovably against it; however small the quantity of work, it was paid for at the old rate. In 1863, the average number of persons out of work was 189,000, and that of those only partially employed, 129,000; in 1864, the figures were 134,000 and 97,000 respectively; and those for the first five months of 1865, 107,000 and 68,000.

No date can be named for the actual cessation of the distress; it died out by degrees. The first relief came from the source of the distress, the United States. During the autumn and early winter of 1862 the citizens of the United States, though with hearts and hands full with the agonies and necessities of war, contributed sufficient food and clothing to load three vessels, the *George Griswold*, *Achilles*, and *Hope*, which hastened to the relief of their suffering cousins, and reached Liverpool, 1863, Feb. When the manufacturers had sold off their old stocks, they recommenced buying more to spin and weave; because, though the price of raw cotton was enormously high (2s. 5d. for Middling Orleans in 1863, May), the selling price for calicoes and muslins was now proportionably high, and therefore they could manufacture at a profit. In 1863, June, a 'Public Works Act' was passed, to enable the government to advance £1,200,000 for public works in the cotton districts—partly to make good drainage, roads, water supply, etc., and partly to yield £600,000 or £700,000 as wages to the unemployed cotton-hands in doing so much of the work as they could manage. The money (to be repaid by parish rates at subsequent dates) was to be advanced by the Exchequer Loan Commissioners on the recommendation of the Poor-law Board, and a government engineer was to examine and sanction the several works to be executed. All these operations were to be confined strictly to the cotton districts, where the distress existed. Mr. R. A. Arnold, the resident govt. inspector of these public works, states in his *History of the Cotton Famine*, that by 1865, June, there had been works planned, and in great part executed, under the clauses of this and a supplementary bill, to the amount of £1,846,000. They comprised the making or improving of 276 m. of street and highway, 304 m. of main sewer, reservoirs for 1,500,000,000 gallons of water, several parks and cemeteries, and a large area of land-drainage. Nearly 30,000 persons had

COTTON GRASS—COTTON SEED.

been fed by the wages paid the cotton operatives on these works. The subscriptions to meet the distress reached £2,000,000; while the out-door poor relief was about £1,000,000 more than in an equal period of average times

COTTON GRASS, (*Eriophorum*): genus of plants of the nat. ord. *Cyperaceæ*, having the fruit accompanied with long silky hairs which spring from the base of the ovary. The species are not very numerous; they are natives of the colder regions of the n. hemisphere, and their white cottony fruit-bearing spikes are seen in moors and bogs. The cottony substance has been used for stuffing pillows, making candle-wicks, etc. Mr. Helliwell has shown that a firm and beautiful cloth can be made of it; and, according to him, it might be gathered in some places, without cultivation, at a cost of twopennee or threepence per pound. The stems of a Himalayan species, *E. cannabinum*, called *Bhabhur*, yield a very strong fibre, and are much employed for making cordage, being simply twisted into cables, of which rope-bridges are usually made; but they are not durable, and require much repairing every year.—C. G. is said to be valuable for sheep pasture. Its leaves were formerly employed as a remedy for diarrhœa, and the spongy pith of the stem to expel tape-worms.



Cotton Grass (*Eriophorum*).

COTTON SEED: seed of plants of the order *Gossypium*. Long before the invention of the cotton-gin by Eli Whitney 1794, the utilization of C. S. was attempted; but the business did not prove profitable, and the seeds continued to be a waste product. There were in the United States (1870) 26 cotton-seed mills, increased (1880) to 47; and (1884) to 130. The number has not increased since. But these 130 mills have not capacity for crushing more than one-third of the seed produced annually—upward of 2,500,000 tons of available product, making allowance for seed necessary for planting. Manufactured into oil, oil-cake, and other products, and the hulls utilized, these 2½ million tons would represent a value of not less than \$75,000,000. The seeds yield 12 to 18 per cent. of crude oil, of reddish-brown color, and of average specific gravity, at temp. 54° F., 0.931. The dark color is due to the presence of resino-fatty substances. The process of refining reduces the volume 15 to 25 per cent., leaving a clear, limpid oil,

COTTONWOOD—COTTUS.

light yellow in color, odorless, with taste resembling that of finest olive-oil, and which solidifies at 32° to 38° F. The crude oil is used to some extent, with the addition of other fats, in manufacture of soaps and in production of glycerin. But the principal use of the refined product is as a table-oil, taking the place of, or mixed with, olive-oil; also as a substitute for hogs' lard. It is very difficult to detect any difference of taste between C.-S. oil and olive-oil, and undoubtedly the former is not inferior as an article of food. In 1881 the Italian govt. imposed a duty upon C.-S. oil imported, and coincidentally the export of 'olive'-oil began to decline. C.-S. oil is on many accounts much preferable to lard for cooking-purposes: it is wholesomer and more nutritious, is entirely free from unpleasant odor or taste, costs less, and goes farther in cooking.

But the oil is only one of the useful products developed out of the C. S. In the cotton-growing districts, the cake which remains after oil has been expressed is used both as feed for cattle and as fertilizer for corn, sugar-cane, and cotton, and for these purposes is highly prized. 'Were oil-mills,' writes Prof. R. H. Thurston, 'more generally established in large cotton-growing districts, it would be profitable for the planters to allow to the manufacturers the remaining lint, oil, and hulls, as toll, and receive the oil-cake, to be returned to the fields directly or through their cattle.' Besides the oil-cake, the lint attaching to the seeds, and the hulls, are the other by-products of the manufacture of C.-S. oil. The hulls are used for fuel at the mills, also as food for cattle; they afford also good paper-stock. The market-value of the by-products is about equal to that of the main product, the oil. The product 1887-8 was: oil \$11,009,100, lint, hulls, oil-cake, \$7,660,000; 1888-9, oil \$12,074,595, other products \$8,493,231; 1889-90, oil \$12,386,305, other products \$11,860,509. The progressive utilization of the by-products is apparent in these figures.

COTTONWOOD: see POPLAR.

COTTON-WORM: caterpillar of the tribe of *noctua* moth, genus *heliothes*. There are two kinds, each with 16 legs. The first, of a general green color striped with yellow and dotted on the back with black, has a rapid undulating motion, attains a length of 1½ inches, deposits 10-15 eggs on the under surface of the leaves, and dies soon afterward. The eggs are hatched in 6-15 days, and the young begin to eat the leaves almost immediately. The second is of a general yellow color, though sometimes brown or green, with black spots and short hairs, has a slow, even motion, is capable of laying 500 eggs, has three broods a year, and deposits its eggs singly in each flower, whence the worm eats its way into the boll and feeds till the boll is about to fall, then goes to another. Both varieties are believed to have originated in s. America.

COTTUS, *kōt' tūs*: genus of acanthopterygious fishes, of the *Mailed Cheek* family or *Sclerogenidæ*, having a large de-

COTULA—COTYLEDON.

pressed head, more or less armed with spines or tubercles, a tapering body destitute of scales, and two dorsal fins. Some of the species are marine, others inhabit fresh water. Of the latter, the bull-head (q.v.) is an example. The marine species are found mostly in northern seas. The Sea Scorpion (*C. Scorpis*) and the Father Lasher (*C. Bubalis*), are often left by the receding tide in rock-pools and among sea-weeds. The greatest size to which they attain on the British coasts is only about 10 inches, but in more northerly seas, they become much larger. They form a principal part of the food of the Greenlanders. Notwithstanding their large gill-openings, they live long out of water.

COTULA, n. *kōt'ū-la*: genus of composite plants, type of the tribe *Cotuleæ*, tribe *Senecionideæ*.

COTUR'NIX: see QUAIL.

COTYLA, n. *kōt'ī-lă*, or Cot'YLE [Gr. *kotylē*, a cup or socket]: in *anat.*, the socket or hollow that receives the end of another bone. Cot'YLOID, a. *-loyd* [Gr. *eidōs*, shape]: resembling the socket of a joint.

COTYLEDON, n. *kōt'ī-lē'dōn* [Gr. *kotylēdon*, a cup-like hollow—from *kotylē*, a hollow, a small cup]: in *bot.*, a seed-lobe, or seed-leaf; a principal part of the embryo in phanerogamous or flowering-plants. Cryptogamous plants are *acotyledonous* (q.v.): their seeds or *spores* have no cotyledons. Phanerogamous plants are divided according to their seeds into *monocotyledonous* (q.v.), having only one C., and *dicotyledonous* (q.v.), having two cotyledons. With the latter are ranked some *Coniferae* remarkable for having more than two cotyledons, which form a sort of whorl. The cotyledons enclose the *plumule* or *gemmule*; and in germination they usually come above ground as the first leaves (seed-leaves) of the young plant—the plumule, in dicotyledonous plants, appearing between them—and they become at the same time more leaf-like; but in some plants, which have thick fleshy cotyledons, they remain underground. In either case, they contain a store of nourishment, by which the young plant is sustained on its first germination. Instances of cotyledons remaining under ground, may be seen in the common pea and bean; and instances of cotyledons coming above ground, in the kidney-bean and scarlet runner, plants of the same nat. order. Cotyledons are sometimes very thick, sometimes very thin and delicate; those of the same seed are generally equal, but not always; they are frequently undivided, but sometimes cut and lobed. The cotyledons of dicotyledonous plants are often simply applied face to face; when, if the radicle is folded along their edges, they are said to be *accumbent*; if it is folded on their back, they are *incumbent*. Sometimes the two cotyledons of a seed are *conduplicate*, or laterally folded; sometimes they are *reclinate*, or folded from apex to base; sometimes *convolute*, or laterally rolled up; sometimes *circinate*, or spirally rolled up with the apex innermost. These terms are of importance in descriptive botany, as characters of high value are often furnished by

the seed.—C., in *anatomy*, is applied to the portions of which the placenta of some animals are formed, as in the ruminants: COT'YLE'DONOUS, a. -lē'dō nūs, pertaining to; having a seed-lobe.

COUCH, n. *kowch* [F. *coucher*, to lay down—from OF. *colcher*, or It. *colcare*, to lay down—from L. *collōcārē*, to lay or place down—from L. *con*, *lōcārē*, to lay]: a place for rest or sleep; a bed; a sofa; in making malt, a layer or stratum of barley spread on the malt-floor; a layer or stratum of color, size, etc.: V. to lie down, as on a bed or place of repose; to lay down in a bed or stratum; to conceal

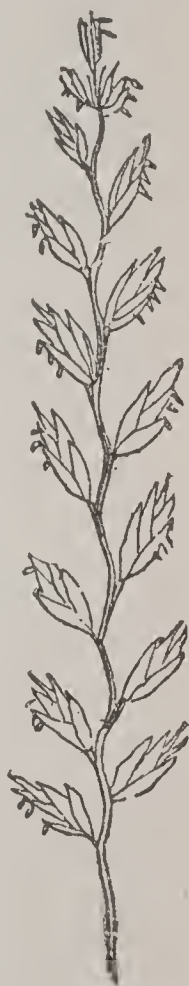


Couchant.

or express in words obscurely; to include or comprise; to recline on the knees, as a beast; to crouch; to fix a spear in the posture for attack; to depress or remove the film that overspreads the pupil of the eye, called a cataract (q.v.); in *OE.*, to plate or lay over, as scales. COUCH'ING, imp. COUCHED, pp.

kowcht. COUCH'ER, n. one who couches cataracts. COUCH'-LESS, a. COUCHANT, a. *kowch'ānt* [F.]: in *heraldry*, a beast lying down with the head raised up; squatting: if the head also is down the beast is *dormant*.

COUCH GRASS (*Triticum repens*), called also *Wheat Grass*, *Dog Grass*, *Quickens*, and *Squitch* or *Quitch*: a grass which, though of the same genus with wheat, is known chiefly as a troublesome weed. It is common in most parts of Europe and N. America. It grows to a height of 1½–3 ft., and has two-rowed spikes and flat spikelets, the side of which is applied to the rachis. It is perennial, and its creeping roots render it extremely difficult of extirpation; they are carefully gathered out of land under cultivation, but they make the plant very useful in fixing loose sandy soils, so as to form pasture. It is not, however, esteemed a very nutritious grass. The roots are sweet and mucilaginous, and are collected at Naples for feeding horses; they have also been dried and ground into meal, to make bread in times of scarcity. A kind of beer is made from them, and in some countries they are much used in domestic medicine. They are diaphoretic and aperient.—The popular name, *Squitch*, or *Quitch*, is given also to some other perennial grasses.



Couch Grass.

COUCY, *kô-se'*, RENAUD, Castellan of, court-poet, belonging to the north of France: probably in the latter part of the 12th c. The love-songs ascribed to him are distinguished above all similar productions of the same epoch by great warmth of passion. They are addressed, of course, to a mistress, whose name, in accordance with the fashion of the time, is not mentioned. From their contents, we can gather little or

nothing of the circumstances of C.'s life, except that he had become a crusader, and had separated himself very reluctantly from the object of his adoration. It is supposed that he accompanied Philippe Auguste and Richard Cœur de Lion to the Holy Land, probably in the service of Raoul, Sieur de Coucy, with whom, indeed, he is often confounded. Like Tristan and Isolde, C. and his mistress soon became patterns of true but unfortunate lovers. As early as the first half of the 13th c., the *Roman d'Aventure* gives a very prolix and incredible account of both. The best edition of the *Chansons du Châtelain de C.* was by Franç. Michel (Paris 1830).

COUEPIA, n. *kó-ěp'î-a*: genus of plants, ord. *Chrysobalanaceæ*. The wood of *C. guianensis*, a large tree 60 ft. high is durable and heavy. The Indians use its bark in the manufacture of their pottery.

COUGAR, n. *kó'gâr* [S. Amer. word: F. *couguar*]: the American panther: see PUMA.

COUGH, v. *kof* [an imitative word: Dut. *kuch*, a cough; *kuchen*, to breathe with difficulty]: to expel the air from the lungs with considerable force and noise; to expectorate: N. an effort of the lungs to throw off offending matter, as phlegm from the air-passages, accompanied with considerable noise: COUGH'ING, imp.: COUGHED, pp., *kof't*.—Coughing, considered physiologically, consists, 1st, in a long inspiration, which fills the lungs to a greater extent than usual; 2d, in the closure of the glottis, or narrow opening in the organ of voice (see LARYNX), at the commencement of the act of expiration; and, 3d, in the sudden forcing open of the glottis by the violence of the expiratory movement. In this way, a blast of air is driven upward from the lungs through the mouth, which carries with it any sources of irritation that may have been present in the air-passages. C. may occur from irritation in the back of the throat, in the larynx, trachea, or bronchial tubes, and may be excited by acrid vapors, by irritant gases, or by articles of food or drink—such as even a drop of water or a crumb of bread—making their way into the air-passages, instead of into the pharynx, or by excessive or morbid secretion from the walls of the air-tubes, or even by the entrance of cold air, when the lining membrane of the air-passages is abnormally irritable.

It is not easy to explain to the non-professional reader *how* cough is produced. From the medulla oblongata, or uppermost part of the spinal cord (lying within the cavity of the cranium), there is given off a very important nerve, called, from its distribution to the lungs and stomach, the pneumogastric nerve (q.v.), which contains both sensory and motor filaments. The sensory filaments are distributed to the mucous lining of the larynx, trachea, etc. Any such irritating substances as have been mentioned may produce an impression upon these sensory filaments, which, being conveyed to the medulla oblongata, gives rise, through the motor filaments, to the transmission of motor impulses to the various muscles concerned in the act of

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coughing. Other motor nerves, especially those supplying the intercostal muscles and the diaphragm, co-operate powerfully with the motor filaments of the pneumogastric.

The object of C. in the animal economy is unquestionably to guard against the danger of the entrance of mechanical and chemical irritants into the air-passages; and accordingly, the mucous membrane, especially of their upper part, is endowed with a most exquisite sensibility, which, when aroused by irritation or by a state of disease, provokes incessant coughing until the irritation be allayed or removed. Cough is an exceedingly common symptom of all diseases of the respiration: see PNEUMONIA: CONSUMPTION: BRONCHITIS: CATARRH: etc.

Cough occurs among the lower animals under similar conditions. From continued breathing of a close foul atmosphere, the bronchial mucous membrane becomes unduly irritable; hence the prevalence of chronic cough among the cows in overcrowded town-dairies. Chronic cough also occurs in horses, usually as a sequel to repeated attacks of bronchitis. It constitutes unsoundness, is best treated by repeated doses of belladonna and camphor, but often requires for its entire removal a run at grass.

COULD, v. *kûd* [AS. *cuthe*, was able]: past tense of *can*; had sufficient power, moral or physical; had sufficient capacity: see CAN 2.

COULEES, n. plu. *kû-lêz'* [F. *coulée*—from *couler*, to flow as melted metals—from L. *colārē*, to filter, to run]: in *geol.*, streams of lava, whether flowing or become solid.

COULOMB, *kô-lông'*, CHARLES AUGUSTIN DE: 1736—1806, Aug. 23; b. Angoulême, France: inventor of an instrument—the *Torsion Balance* (q.v.)—to measure the force of magnetic and electrical attraction. In early life, he entered the engineers. In 1777, he gained a prize by an essay on the construction of magnetic needles (*Sur les Aiguilles Aimantées*). In 1779, his *Théorie des Machines simples* gained the prize offered by the Acad.; and, in 1781, he was a third time successful, in an essay on the friction and resistance of cordage, etc., used in machines. In the same year, he was elected member of the Acad., and his services were employed on all the most difficult problems in mechanics. Having offended certain influential persons by reporting unfavorably on their project of a navigable canal in Bretagne, C. was for some time imprisoned, but received from the States of Bretagne a present of a seconds' watch, as a reward of his firm opposition to an expensive and unprofitable scheme. C. lived in retirement during the Revolution, and became a member of the Institute, 1804. See UNITS, SCIENTIFIC.

COULTER, n. *kôl'tér* [OF. *coultre*—from L. *culter*, a plowshare, a knife: F. *coulter*, a coulter]: the sharp iron of the plow in front of the share which cuts off the furrow-slice from the fast land; also COL'TER: see PLOW. COULTERNEB, n. *kôl'tér-nêb*, a sea-bird, so named from the blade-like shape of its neb or bill; the puffin.

COUMARINE, or COUMARIN, n. *kô'mă-rên*, known

also as TONKA STÉAROPTEN (see STEAROPTEN): odoriferous substance, which gives agreeable fragrance to the well-known Tonka Bean (q.v.) (*Dipteria odorata*), used for flavoring snuff; the Woodruff (*Asperula odorata*); the Melilot (*Melilotus officinalis*); a number of grasses, as the sweet-scented Vernal Grass (*Anthoxanthum odoratum*); and the Faam or Faham leaves (*Angræcum fragrans*), much prized among the Asiatics for their vanilla-like scent; and is probably the cause of similar fragrance in many other plants. C. may be procured from Tonka beans by digestion in ether. It crystallizes in small prisms, is colorless, has the smell of the bean, and is scarcely soluble in cold water, but dissolves in boiling water. A beverage well known in Germany as *May Drink*, made of wine and woodruff, derives its flavor from coumarin.

COUMOUNDOUROS, *kó-môn'dó rōs*, ALEXANDER: 1818–1883, Mar. 10; b. Athens: Greek statesman. He entered the Greek chamber of deputies 1850, became pres of that body, and was subsequently appointed a minister of state with charge of the dept. of finance. His first official step was to propose to the chamber a bill for the recognition of the Greek debts of 1814 and 25 contracted in the struggle for freedom. The measure at first failed, but he clung to its moral and political necessity, and succeeded in securing its adoption, 1879. He was frequently prime minister of Greece, and held the office longer than any contemporary Greek statesman. His popularity was very great through the country, and he was often called the Cavour of Greece.

COUNCIL, n. *koun'sil* [F. *concile*, an assembly—from L. *conciliūm*, an assembly: It. *concilio*]: an assembly met for consultation, or convened to give advice; a meeting of delegates from churches, in some denominations, with only advisory or moral power, in others, of high authority, e.g. provincial, national, and ecumenical councils: see COUNCIL, or SYNOD: a municipal body: see TOWN COUNCIL. COUNCILOR, n. *-lér*, a member of a council. COUNCILORSHIP, n. the office. COMMON COUNCIL, in the city of London, and other cities, the body which represents the citizens. ECUMENICAL COUNCIL, *ék'û-mên'î-kāl-*, in *eccles. hist.*, a general council or assembly of a select number of ecclesiastics of various ranks representing the whole church. PRIVY COUNCIL (q.v.), a select number of persons for advising a sovereign in the administration of public affairs. COUNCILBOARD, the table around which councilors sit in consultation.—SYN. of 'council': meeting; congress; diet; convocation; convention.

COUNCIL, or SYNOD, in *Eccles. Hist.*: assembly of ecclesiastical dignitaries, for regulating the doctrine or discipline of the church over a provincial or larger area. In modern usage, C. has a different application, denoting an assembly gathered from any wide area, usually a representative but not authoritative body, embracing several affiliated sects, and meeting for free and helpful conference on matters of common concern, but with no legislative function; e.g., the Pan-Presbyterian Council.

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As early as the 2d c., church councils were convened, in which only one or two provinces took part, the bishops and presbyters binding themselves to carry out the decisions arrived at, in their own communities. These assemblies were commonly held in the chief town or metropolis of the province, and the bishops of such capitals—who after the 3d c., bore the title of *metropolitan*—were wont to preside over the meetings, and to consider questions of doctrine and discipline which had arisen within the territory. Over these metropolitan councils were established, at a later period, the provincial synods, exercising authority over several united provinces, and finally, the national councils. After the 4th c., when the Christian religion was established in the Roman empire, we read of *ecumenical*, i.e., universal councils, so called because all the bishops of Christendom were invited or summoned by the emperor. In some early synods, bishops, presbyters, and others, took part in the deliberations; but after the opening of the 4th c., only the bishops were convened. According to the doctrine of the Rom. Cath. Church, the pope alone, or, by way of exception in some cases, the college of cardinals had the power of convening ecumenical councils, which, in the Rom. Cath. view, represent the universal church under the guidance of the Holy Ghost. Questions were determined by the majority of votes, and the pope or his proxy presided and confirmed the resolutions carried in the synod. In matters of faith, the Holy Scriptures and the traditions of the church were the guide; while in lighter matters, human reason and expediency were consulted. In matters of faith, ecumenical councils are held to be infallible; but in other matters of discipline, etc., the latest synod decide questions. The question of the pope's subordination to the decrees of the ecumenical councils was long and warmly debated, but the recent Vatican council may be said to have set the question at rest. Twenty ecumenical councils are recognized in the Rom. Cath. Church—9 eastern and 11 western.

1. The synod of apostles in Jerusalem, wherein the relation of the Christian doctrine to the Mosaic law was determined. (Acts, xv.)
2. The first C. of Nice, 325, to assert the Cath. doctrine respecting the Son of God in opposition to the opinions of Arius: see NICE (OR NICÆA), COUNCILS OF.
3. The first C. of Constantinople, convoked under the Emperor Theodosius the Great (381), to determine the Cath. doctrine regarding the Holy Spirit: see CONSTANTINOPLE, COUNCILS OF.
4. The first C. of Ephesus, convened under Theodosius the Younger (431), to condemn the Nestorian heresy: see EPHESUS, COUNCIL OF.
5. The C. of Chalcedon, under the emperor Marcian (451), which asserted the doctrine of the union of the divine with the human nature in Christ, and condemned the heresies of Eutyches and the Monophysites: see CHALCEDON, COUNCIL OF.
6. The second C. of Constantinople, under Justinian (553), which condemned the doctrines of Origen, Arius, Macedonius, and others.
7. The third C. of Constantinople, convoked under the Emperor Constantine V., Pogonatus (681), for the condemnation of the Monothelite heresy.
8. The second C. of

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Nice, in the reign of the Empress Irene and her son Constantine (787), to establish the worship of images. 9. The fourth C. of Constantinople, under Basilus and Adrian (869), the principal business of which was the peace of the eastern and western churches, and the deposition of Photius, who had intruded himself into the see of Constantinople, and the restoration of Ignatius, who had been unjustly expelled.—The ecumenical councils, to this point, may be said to have been acknowledged generally as authoritative in both the Eastern and the Western churches, though there were some large local exceptions. After this, the councils called ecumenical were so only in name, the schism between the two churches having now become complete. The remainder of the list are not acknowledged by the Greek Church.—10. The first Lateran C., in Rome under the Emperor Henry V., and convoked by the pope, Calixtus II (1123), to settle the dispute on investiture (q.v.): see **LATERAN COUNCILS**. 11. The second Lateran C., under the Emperor Conrad III. and Pope Innocent II. (1139), condemned the errors of Arnold of Brescia and others. 12. The third Lateran C., convened by Pope Alexander III. (1179), in the reign of Frederick I. of Germany, condemned the ‘errors and impieties’ of the Waldenses and Albigenses. 13. The fourth Lateran C., held under Innocent III. (1215), among other matters asserted and confirmed the dogma of transubstantiation, and necessity for the reformation of abuses and the extirpation of heresy. 14. The first ecumenical synod of Lyon, during the pontificate of Innocent IV. (1245), had for its object the promotion of the Crusades, the restoration of ecclesiastical discipline, etc. 15. The second ecumenical synod of Lyon, during the pontificate of Gregory X. (1274): its principal object was the re-union of the Greek and Latin churches. 16. The Synod of Vienne in Gaul, under Clemens V. (1311), convoked to Suppress the Knights Templars, etc. 17. The C. of Constance, convoked at the request of the Emperor Sigismund, 1414: it sat for 4 years, asserted the authority of an ecumenical C. over the pope, and condemned the doctrines of John Huss and Jerome of Prague: see **CONSTANCE, COUNCIL OF**. 18. The C. of Basel, convoked by Pope Martin V., 1430, sat for nearly 10 years, and purposed to introduce a reformation in the discipline, and even the constitution of the Rom. Cath. Church: all acts passed in this C., after it had been formally dissolved by the pope, are regarded by the Rom. Cath. Church as null and void: see **BASEL, COUNCIL OF**. 19. The celebrated C. of Trent, 1545—63; opened by Paul III., and brought to a close under the pontificate of Paul IV.: see **TRENT, COUNCIL OF**. The Vatican C. above mentioned, 1870, decreed the infallibility of the pope: see **VATICAN, COUNCIL OF**.

Among the provincial or local synods convened after the division of the church into east and west, was that of Clermont (1096), when the first crusade was proposed, and that of Pisa (q.v.) 1409, when three popes were contending for the see of Rome. Among Protestants no general C. has ever been convened; but several particular synods have de-

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cided various questions. Of these synods one of the more remarkable was that of Dort, 1618, when Calvin's creed was asserted against the Arminians: see ARMINIUS.

The decrees of the Rom. Cath. councils were edited by Mansi (31 vols. 1759-98). See Hefele's *Conciliengeschichte* (7 vols. 1855-74).

COUNCIL, IN CONGREGATIONAL CHURCH USAGE: assembly of delegates directly representative of churches, called for some special purpose or occasion of fellowship between churches, and dissolved when the business is finished. A C. is called usually by a church which, newly organized, seeks recognition as in fellowship with other churches; also by a church in the settlement or dismissal of a pastor, or whenever it sees its special need of the aid or advice of other churches. It may be called also by an individual member for advice as to his course in reference to an action by his church which he deems a grievance. The decisions of councils have no authority as law; but being expressive of christian sentiment in any given case, they bring to bear a strong moral pressure, which, as matter of fact, is very seldom disregarded. Councils consist of any reasonable number of churches. The selection and calling of them is done by the church (or in rare cases the individual) directly interested, issuing to such churches as are desired a formal invitation to a C. to be held at a specified place and time, for a clearly stated purpose, and to be composed of designated churches. All these churches receive an identical invitation, or LETTER MISSIVE, and each may accept or decline it according to its own judgment. Each church accepting the letter missive is represented in the C., usually by its pastor and one other delegate. Only the business indicated in the letter missive can be considered in the C. A council has no function outside of or beyond the letter missive which is its charter; nor has it power to change that letter, or to make any change in the constituency which that letter indicates. The Congl. Churches of the United States have held several general C.'s, to consider matters of common denominational importance; and, 1871, at Oberlin, O., they organized a national C., meeting once in three years; this body is not a council or assembly of churches, but rather a body of delegates from state or district associations or similar bodies, meeting in conference for the general furtherance of Christian work. Thus it is without the functions of the councils of churches above noted, and gives no advice in questions of christian fellowship between churches. It is precluded, as are also the regular councils, from exercising any legislative or judicial authority. Its moral influence has been considered helpful in various ways.

COUNCIL, IN THE REFORMED EPISCOPAL CHURCH: assembly of ministers and laymen, created by the provisional constitution of the church, adopted 1873, Dec. 2. The general C. consists of all the bps. and presbyters of the church, with lay representatives who must be communicants and members of the congregations which they represent. The

COUNCIL BLUFFS—COUNCIL OF WAR.

lay representation consists of one deputy for each 50 communicants in each congregation, and every congregation is entitled to at least one deputy. The bps. do not constitute a separate house nor exercise a veto power, but vote with the presbyters when a vote is taken by orders. The pres. is chosen by ballot from among the bps., serves a term of one year, and during it is the presiding bp. of the church. Six or more adjoining congregations with 6 or more presbyters may associate themselves in a synod, under the jurisdiction of a bp., and the body shall embrace all the ministers of the church within the limit, and such a number of lay deputies from each congregation as the synod determines. Each congregation has its own individual C. which co-operates with the minister in all matters beyond the jurisdiction of the vestry.

COUNCIL BLUFFS: city, cap. of Pottawattamie co., Iowa, at the base of a picturesque range of a high bluffs; 3 m. e. of the Missouri river, 4 m. e. by n. of Omaha, Neb., 141 m. w.s.w. of Des Moines by rail, 317 m. w. of Davenport, and 1,000 m. n. of St. Louis; on the Kansas City St. Joseph and C. B., Chicago Rock Island and Pacific, Burlington and Missouri River, Chicago and Northwestern, and Union Pacific railroads; area 24 sq. m. An iron bridge over the Missouri river, nearly a m. long, connects it with Omaha and provides transit for passenger and freight trains and street cars, and its extremities are connected by a horse railroad. Its public buildings include a state deaf and dumb institution founded 1842, a commodious co. courthouse built 1867 at a cost of \$50,000, a city hall, 2 public halls, a library, and a Y. M. C. A. hall and reading room. The educational buildings embrace a very pretty high-school that cost \$50,000, 6 ward schools and a grammar school, a Rom. Cath. seminary for girls, and a school for boys. There are 9 churches, 2 Meth. Episc., and one each Bap., Congl., Lutheran, Presb., Rom. Cath., Unitarian, and United Brethren; 2 national banks with a capital of \$150,000, 2 savings banks, 2 daily and 4 weekly newspapers, 3 breweries, 2 flour mills, iron works and machine shops, and manufactories of steam engines, agricultural implements, carriages and wagons, furniture, brooms, and cigars. C. B. derived its name from a council held on the bluffs with the Indians by Messrs. Lewis and Clark, 1804, was occupied by a community of Mormons, who named it Kaneshville, 1846, and was incorporated under the name of C. B. 1853. Pop. (1870) 10,020; (1880) 18,063; (1890) 21,474; (1900) 25,802.

COUNCIL OF WAR: conference of officers in military or naval warfare, on some matter in which the commander wishes to fortify his judgment by an appeal to that of others. The French make a special provision for a Council of Defence in a garrison. The governor or commandant may summon the heads of departments to meet him in consultation whenever he may think such a step desirable; and the opinions expressed at such meetings are placed upon record. The commandant of a garrison generally solicits

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the opinion of a C. of W. before surrendering to besiegers. The English military code leaves these matters to the discretion of the commander. In the navy, a C. of W. consists usually of flag-officers only; but officers of lower rank occasionally assist.

COUNSEL, *n.* *koun'sěl* [F. *conseil*—from L. *consiliūm*, deliberation]: advice; opinion or advice given for the instruction or guidance of another; consultation; secret opinions; design; purpose; will; one who advises in matters of law; an advocate; a barrister: see **ADVOCATE**: **ATTORNEY**: **BARRISTER**: **V.** to advise; to give advice or a deliberate opinion to another for his guidance; to warn; to admonish. **COUN'SELLING**, *imp.* **COUN'SELLED**, *pp.* *-sèld*. **COUN'SELOR**, *n.* *-lér*, one who advises another; an advocate; a barrister. **COUN'SELORSHIP**, *n.* the office of a counsellor. **TO KEEP COUNSEL**, to keep any design or purpose secret.—**SYN.** of 'counsel, *v.*': to admonish; instruct; recommend.

COUNT, *v.* *kownt*, formerly spelled *compt*, as in *acompt* [F. *compter* or *conter*, to count, to reckon—from L. *computārē*, to sum up—from *con*, *putārē*, to clear up, to arrange: It. *computare*]: to number; to sum up; to reckon; to esteem or consider; to ascribe to; to rely on: **N.** number; act of numbering; total amount; in *law*, a particular charge in an indictment. **COUNT'ING**, *imp.* **COUNT'ED**, *pp.* **COUNT'ER**, *n.* one who; that which is used in reckoning numbers; a table on which money is counted or goods laid; an imitation of a piece of money. **COUNT'ABLE**, *a.* *-ă-bl*, that may be numbered. **COUNT'LESS**, *a.* that cannot be numbered; innumerable. **COUNT-OUT**, an adjournment of the house of commons when fewer than forty members are present—only made, however, when the attention of the Speaker is called to that fact by a member. **COUNT for ACCOUNT**, in *Scot.*, a question in arithmetic. **COUNT-WHEEL**, the wheel that regulates the number of blows that a clock is to strike at the end of each hour.—**SYN.** of 'count, *v.*': to calculate; reckon; compute; estimate; enumerate; rate; judge; think.

COUNT, *n.* *kōront* [OF. *conte*; F. *comte*—from L. *comitēs*, an associate: It. *conte*]: name given to the great officers of state under the Frankish kings; a foreign title of nobility answering to English *earl*: **COUNTESS**, *n.* *kowntēs* [F. *comtesse*], the wife of a count or an earl. In classical writers, down to the end of the 4th c., the meanings attached to the word *comes* (Lat. form of *Count*) were comparatively few and simple. At first it signified merely an attendant, and differed from *socius* chiefly in expressing a less intimate and equal relation to the person accompanied. Suetonius uses it for an attendant on a magistrate. A little later, in Horace's time, it was applied to those young men of family whom it had become customary to send out as pupils under the eye of the governor of a province, or the commander of an army. Very soon, the fashion of having similar attendants at home was introduced, and Horace speaks of this necessity as one of the miseries of a high

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position. The emperor, of course, had many *comites* (Lat. plu. of *comes*) in this sense; and to these, as he gradually became the centre of power, he transferred the various offices of his household, and even of the state. Around his person these *comites* formed a sort of council of state, resembling that instituted by the first Napoleon. The example of the emperors of the west was followed by the emperors of the east, though at Byzantium the title attached less to the office than to the individual. Most of the titles of British court officials are translations of those belonging to similar officers in the lower empire. The *comes sacrarum largitionum* was the grand almoner; the *comes curiæ*, the grand-master of ceremonies; the *comes vestiarius*, the grand-master of the wardrobe; *comes equorum regiorum*, the grand equerri, etc. The *comes marcarum*, or count of the marches, there can be little doubt, was the original of the *marquis* of later times. In France, the C. of the palace (*comes palatii nostri*) was the highest dignitary in the state after the *maire* of the palace; and, in the 11th c., he had already acquired a rank apart from that of the other counts. He presided in the court of the sovereign in his absence, and possessed sovereign jurisdiction. The habit of instituting counts-palatine was adopted by Spain and England. Those counts who, at a later period, as rulers of provinces, assumed something approaching to sovereign power, arrogated to themselves the right of appointing counts-palatine under them—e. g., the Counts of Chartres, of Champagne, of Blois, Toulouse, etc.; and the ancient houses of Chartres and of Blois continued to claim in perpetuity the title of C.-palatine as that of their eldest sons. Counts of this sovereign class owed their origin to the feebleness of the later Carlovingian kings, under whom they contrived gradually to convert the provinces and towns which they had governed as royal officers into principalities hereditary in their families. It was then that the counts came to be known by the names of their counties. Since the great revolution, the title of C. in France has been purely honorary, and has been used with a license which has almost deprived it of even that character. The title was never used in England, though its Latin equivalent has always been the common translation for earl (q.v.), and the wife of an earl, from a very early period, has been styled *countess*. For the history of the office in Germany, where it was of great importance, see GRAF.

COUNT AND RECK'ONING, in the law of Scotland: form of process, by which one party compels another to account judicially, and to pay the balance which may be found due.

COUNTENANCE, n. *kown'tě-năns* [F. *contenance*, capacity, looks—from mid. L. *continē'tiā*, gesture, demeanor—from L. *continē're*, to hold together, to preserve—from *con*, *tenē're*, to hold]: the whole external features of the body; the appearance of the features of the human face; look; favor; goodwill; support; superficial appearance; show: V. to show favor; to support; to encourage; to aid;

COUNTER—COUNTER-CHANGED.

in *OE.*, to make a show of; to act suitably to. COUN'TENANCING, imp. COUN'TENANCED, pp. -*nānst*. COUN'TENANCER, n. -*sēr*, one who. IN COUNTENANCE, in favor; pleased. To KEEP IN COUNTENANCE, to support; to aid by favor; to please by giving assurance to; to keep from dejection or dismay. To PUT IN COUNTENANCE, to encourage; to make cheerful by support; to bring into favor. OUT OF COUNTENANCE, annoyed and vexed; abashed; dismayed. To PUT OUT OF COUNTENANCE, to annoy and vex; to disconcert; to abash.

COUNTER, n. *koun'tēr* [see COUNT 1]: a false or spurious piece of money, as that used in reckoning in games; money in contempt; a table for receiving goods, or laying down money on.

COUNTER, ad. *koun'tēr* [F. *contre*—from L. *contra*, against]: contrary; in opposition; the wrong way; another form of prefix CONTRA, opposition or contrariety: see list of prefixes.

COUNTER, n. *koun'tēr*, or COUN'TER-TEN'OR, -*těn'ēr*, [L. *contra*, in opposition to]: in *music*, the part immediately below the treble, sung by the highest adult male voice and the lowest female voice—formerly an under part serving as a contrast to a principal part.

COUNTERACT, v. *koun'tēr ākt'* [F. *contre*—from L. *contra*, against, and *actus*, done]: to act in opposition to; to hinder; to defeat; to frustrate. COUN'TERAC'TING, imp. COUN'TERAC'TED, pp. COUN'TERAC'TIVE, a. -*āk'tīv*, tending to counteract. COUN'TERAC'TION, n. -*āk'shūn*, hindrance; action in opposition. COUNTER-AGENT, he who or that which acts in opposition to.

COUNTER-APPROACH, n. *koun'tēr-āp-prōch'* [F. *contre*—from Lat. *contra*, against]: in *military engineering*, a trench or passage cut by the defenders of a fortified post from some of the outworks towards the besiegers, and leading to a battery in a small work. Its object is to enable the defenders to foil the approaches of the besiegers, by carrying the fight further away from the body of the place, and enabling the besieged to enfilade the besiegers' batteries and approaches.

COUNTER-ARCH: a vertical arch connecting the top of buttresses or pillars.

COUNTER-ATTRACTIVE, a. *koun'tēr-āt-trāk'tīv* [*counter*, and *attractive*]: attracting in a different or in an opposite direction. COUN'TER-ATTRAC'TION, n. opposite attraction.

COUNTERBALANCE, v. *koun'tēr-bāl'āns* [*counter*, and *balance*]: to weigh against with an equal weight; to act against with an equal power or effect; to neutralize: N. equal weight or power.

COUNTER-BUFF, v. *koun'tēr-būf* [*counter*, and *buff*]: to repel; to strike back: N. a blow in a contrary direction.

COUN'TER-CHANGED, or, CON'TER-CHANGED, in Heraldry: when several metals and colors are intermixed, one being set against the other.

COUNTER-CHARGE—COUNTER-GUARD.

COUNTER-CHARGE, n. *kown'tér-chárj* [*counter*, and *charge*]: an opposite charge. **COUNTER-CHARM**, n. *-chärm* [*counter*, and *charm*]: that by which a charm is dissolved or destroyed: V. to destroy the effect of enchantment. **COUNTER-CHECK**, n. *-chěk* [*counter*, and *check*]: check in opposition to another; hindrance: V. to oppose or stop by some obstacle. **COUNTER-CUR'RENT**, n. *-kúr'rěnt* [*counter*, and *current*]: a current in an opposite direction: **ADJ.** running in an opposite direction.

COUNTER-DRAIN, n. *kown'tér-drăn* [*counter*, and *drain*]: a drain runing parallel to a canal or artificial water-course to collect the leakage-water. **COUNTER-DRAW**, v. *-draw* [*counter*, and *draw*]: to copy a design or painting by means of fine linen cloth, oiled paper, or any similar transparent substance spread over it, through which the strokes appearing are traced with a pencil.

COUNTER-EVIDENCE, n. *kown'tér-ěv'í-děns* [*counter*, and *evidence*]: evidence or testimony opposing some other evidence.

COUNTERFEIT, v. *kown'tér-fít* [F. *contrefait*, deformed—from *contre*, against; *faire*, to make—from L. *contra*, against; *facere*, to make]: to copy or imitate without authority or right; to forge; to imitate with a view to deceive; to feign; to dissemble: **ADJ.** false; forged; made in imitation of something else; not genuine: N. a cheat or impostor; one who pretends to be what he is not; that which is made in imitation of something else; in *OE.*, a likeness; a copy. **COUN'TERFEIT'ING**, imp.: N. the act of one who counterfeits; the process: see **COINING**. **COUN'TERFEIT'ED**, pp. **COUN'TERFEIT'ER**, one who.—**SYN.** of 'counterfeit, a.': spurious; fictitious; suppositious; adulterated; sophisticated; fabricated; hypocritical.

COUNTERFESANCE, n. *kown'tér-fěz'ăns* [OF. *contre-faisance*—from *contrefaire*, to counterfeit]: in *OE.*, a counterfeiting; a forgery.

COUNTERFOIL, n. *hown'tér-foyl* [*counter*, and L. *folium*, a leaf]: the corresponding leaf; the corresponding part of a tally or check. **COUNTER-GAUGE**, n. *-gāj* [*counter* and *gauge*]: in *carpentry*, a method of measuring joints.

COUN'TERFORT, in *Fortification*: mass of stone or brickwork added to the revetment of a rampart, in such a way as to form a buttress for resisting the pressure of the mass of earth. Counterforts occur at intervals of about 20 ft., and assist in preventing the earth from pushing down the revetment-wall into the ditch.

COUNTER-GUARD, n. *kown'tér-gárd* [*counter*, and *guard*]: in *mil.*, an outwork designed to defend the two faces of a bastion or ravelin from a direct fire, so as to retard a breach being made: it consists of two lines of rampart parallel to the faces of the bastion or ravelin, and separated from them by a narrow ditch. The crest of the C. must be some three ft. lower than that of the works it covers, in order not to obstruct the defense. Lest the enemy should establish a battery on the C., the terre-

COUNTER-IRRITANT—COUNTERMINE.

plein, or flat space behind its parapet, is made very narrow.

COUNTER-IRRITANT, *kõron'tér-ír'î-tánt* [*counter*, and *irritant*]: in *med.*, substance employed to produce an artificial disease, or secondary irritation, for the relief of the original one. Such substances are applied to the skin so as to redden (rubefacients), to vesicate (blisters or vesicatories), or to produce pustules, purulent issues, or even sloughs of skin and of the subcutaneous textures. The milder are mustard (see CATAPLASM), turpentine applied on warm cloths, and spirit or acetic acid in lotion. The stronger are blisters of cantharides (q.v.) or of ammonia; croton-oil (q.v.) or tartar emetic (q.v.), in ointment; setons, caustic or pea-issues, and the moxa; and above all, the actual cautery (q.v.) or hot iron. None of the stronger C. should be used without careful consideration and medical advice; great mischief is often done by their careless or improper use. C. relieve internal pain, and tend to promote the absorption of morbid effusions.

Among horses, C. are much used for strains and diseases of the joints, but should never be applied in recent cases, or while the part is hot or inflamed. Cantharidine preparations, or ointment of biniodide of mercury, are the most convenient. For cows, use hot fomentations, followed by the smart infriktion of mustard-paste; for dogs, soap-liniment, strengthened, if required, by ammonia or turpentine.

COUNTERMAND, v. *kown'tér-mänd'* [F. *contremander*—from L. *contra*, against; *mandāre*, to command]: to give an order contrary to one given before; to annul or forbid the execution of a former command: N. a contrary order. COUN'TERMAND'ING, imp. COUN'TERMAND'ED, pp.

COUNTERMARCH, v. *kown'tér-mārch'* [*counter*, and *march*]: to march back: N. a marching back; a change of measures; in *mil.*, to move a body of troops to the rear without any change of their original order—that is, to move them backward. COUN'TERMARCH'ING, imp.: see MARCHING. COUN'TYRMARCHED, pp. -*mārch't*.

COUNTER-MARK, n. *kown'tér-mārk* [*counter*, and *mark*]: mark or token added in order to afford security or give proof of quality; stamp seen on some ancient coins or medals, supposed to denote that the coin was captured from an enemy; artificial cavity made in the teeth of horses to disguise their age: V. to add a mark as a test of quality, etc.; to make an artificial cavity in the teeth of a horse.

COUNTERMINE, n. *kõron'tér-mîn* [*counter*, and *mine*]: a gallery sunk in the earth in the attack or defense of a fortified place in order to blow up the works of an enemy is called a *mine*—one dug to destroy a *mine* is called a *countermine*; a secret project to frustrate any contrivance: V. to mine in opposition, or to search for an enemy's mine; to frustrate by secret measures: COUN'TERMI'NING, imp.: COUN'TERMINED, pp. -*mīnd*.—Countermine, in *military engineering*, is a gallery or chamber excavated under the glacis or some other part of a defence-work of a fortress. Its

COUNTER-MOTION—COUNTERPOINT.

purpose is to foil a besieger. In a fortress on a large scale, there are envelope galleries, counter-scarf galleries, listening galleries, galleries of communication, and other subterranean passages, under various parts of the outworks, all for the purpose of assisting the defenders in discovering and frustrating plans laid by the besiegers. Listening galleries are sometimes pushed forward even to the foot of the glacis. In such places, selected men put their ear to the ground, and listen for the approach of an enemy, as denoted by the sound of tools used in driving a mine or gallery of attack. The sound of a pickaxe so employed can be heard through the ground at a distance of 60 feet. As there are no openings above, these galleries cannot be driven beyond a certain distance, as the sappers would be stifled for want of air. If a mine be driven to blow up the defense works, a C. is driven to blow up the besiegers; and sometimes the two parties carry their works so far as to meet in the subterranean passages, and there fight. If there be only a thin wall of earth left between them, they will fire pistols through bored holes, or drive in cartridges or smoke-balls. This work is carried on mostly by sappers and miners.

COUNTER-MOTION, n. *kown'tér-mō'shŭn* [*counter*, and *motion*]: an opposite motion. **COUN'TER-MOVE'MENT**, n. *-mév'měnt* [*counter*, and *movement*]: a movement in opposition to another.

COUNTERPANE, n. *kown'tér-pān* [F. *courte-pointe*, a counterpane, corrupted into *contre-pointe*—from OF. *coulte-pointe*—from L. *culcita puncta*, a stitched cushion]: the upper covering of a bed, having the stitches arranged in patterns for ornament; a quilt or coverlet.

COUNTERPANE, n. *kown'tér-pān* [OF. *contrepan*, a pledge, a pawn—from *contre*, against; *pan*, a pawn or gage]: in *OE.*, the counterpart of a deed or writing.

COUNTERPART, n. *kown'tér-párt* [*counter*, and *part*]: the part that answers to another; the key of a cipher; in *music*, the part to be applied to another, as the *bass* is the counterpart to the *treble*.

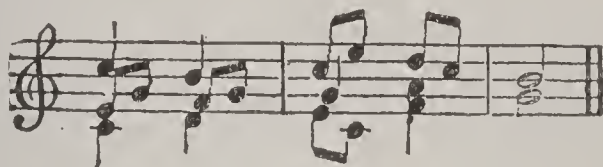
COUNTER-PASSANT, *kown'tér-pās'sant*, in *Heraldry*: when two beasts are passing each other the contrary way.

COUNTER-PLEA, n. *kown'tér-plē* [*counter*, and *plea*]: in *law*, in an incidental pleading, the plaintiff's reply to the defendant's plea. **COUN'TER-PLEAD**, v. *-plēd*, to plead the contrary of; to deny. **COUNTER-PLOT**, n. [*counter*, and *plot*]: artifice opposed to an artifice: V. to oppose one machination by another. **COUN'TER-PLOT'TING**, n. act of plotting against a plot.

COUNTERPOINT, n. *kōwn'tér-pōynt* [F. *contrepont*, counterpoint—*lit.*, point against point—from L. *contrapunctus*: It. *contrappunto*]: an opposite point; in *music*, the placing of notes so as to indicate the harmony of parts; the art of combining and modulating sounds in several distinct parts. In the early age of musical science, notation was represented by mere points on the lines. The setting

COUNTERPOINT.

of parts to a melody already represented by a row of dots or points was therefore called *punctum contrapunctum*. In this respect C. is nothing else but the uniting of various harmonious parts. In a more circumscribed sense, it is the art or manner of accompanying a given melody with other parts. Simple C. is a musical combination where the melody of the parts is not mixed or changed, and may be either all in notes of the same length or of different lengths, as for example:



If the parts be constructed in regard to one another so that



Fig. 1.



Fig. 2.

they can be changed, or transposed over or under each other, without alteration in the movement, or injury to the harmony, it is then called double C., as in Fig. 2. As double C. consists of the changing or transposing of one part over or under another, it follows that there must be as many different kinds of it as there are different intervals in the scale. We have, therefore, double C. of the octave as in Fig. 1, of the twelfth, tenth, ninth, etc. That of the octave, is, however, the most useful, as it is more free in movement, and easier to recognize. Fig. 2 admits of different transpositions.

The first indication of contrapuntal writing is to be found in the 12th c. by Adam de la Hale, who received a genuine artistic education in the Netherlands, but was far in advance of his time; for his style of music was forbidden to be performed in the church by a bull of the pope, who gave Palestrina an order to replace it with a more simple music. The best masters for C. have been Kirnberger and Albrechtsberger in former times; and, in modern times, Schneider, Hauptmann, and Dehn.

COUNTERPOISE, n. *kown'tér-poyz* [F. *contre-peser*, to counterpoise—from L. *contra*, against; *pensāre*, to weigh: F. *poids*; OF. *pois*, a weight]: a weight against a given weight; an equal weight; a weight sufficient to balance another in the opposite scale; a force or power sufficient to balance another force or power: V. to weigh against with an equal weight; to act against with equal power and effect. **COUN'TERPOIS'ING**, imp. **COUN'TERPOISED**, pp. *-poyzd*.

COUNTER-POISON, n. *kown'tér-poy'zn* [*counter*, and *poison*]: a medicine which destroys the effects of a poison; an antidote.

COUNTER-PROJECT, n. *kown'lér-pröj'ëkt* [*counter*, and *project*]: a scheme or proposal given in opposition to another. **COUN'TER-PROOF**, n. *-pröf*, in *engraving*, a print taken off from another just printed, with the view of ascertaining the state of the plate.

COUN'TER-PROOF: impression obtained from a freshly-printed proof of an engraving, by laying it, before the ink is dry, upon plain paper, and passing it through the press. By this means the ink is transferred from the wet proof to the plain paper, and a reversed impression is obtained, often of use in enabling the engraver to judge of the success of his work.

COUNTERSCARP, n. *kown'tér-skárp* [L. *contra*, against; It. *scarpa*; F. *escarpe*, the slope of a wall, or the steep front of a fortification]: in a *fortified place*, the slope or nearly vertical side of the ditch next the enemy, often the whole covered way which surmounts it,—the interior slope is called the *scarp* or *escarp*.

COUNTER-SECURE, v. *kown'tér-sē-kūr'* [*counter*, and *secure*]. to render more secure by corresponding means, or by means to match. **COUN'TER-SECU'RITY**, n. *-rì-tĩ*, security given to one who has become surety for another.

COUNTERSIGN—COUNTLESS.

COUNTERSIGN, n. *kown'tér-sîn* [F. *contresigner*, to countersign—from L. *contra*, against; *signum*, a mark]: a private signal, word, or phrase given to sentinels on guard, inspectors, etc., to enable them to distinguish friends; it is usually a simple word secret except to those immediately concerned, and is changed often as requisite for security; a watchword: V. to sign a document in addition to another to attest its authenticity. **COUN'TERSIGN'ING**, imp. **COUN'TERSIGNED**, pp. *-sînd*. **COUN'TER-SIG'NAL**, n. *-sĭg'nāl*, a signal to answer or correspond to another. **COUN'TERSIG'NATURE**, n. the signature of a secretary, or of a subordinate, added to the signature of a superior.

COUNTERSINK, v. *kown'tér-sĭnk* [*counter*, and *sink*]: to drill a conical depression in wood or metal to receive the head of a screw.

COUNTER-SLOPING, *kown'tér-slō'pĭng* [*counter*, and *slope*]: in *mil.*, a surface which slopes inward instead of outward, as is usual in fortifications—usually applied to glacés and revetments.

COUNTER-TENOR, *kown'tér-tĕn'ēr* [F. *contreteneur*: It. *contratenore*—from *tenore*, a tenor]: see **COUNTER 3**.

COUNTERVAIL, v. *kown'tér-vāt* [OF. *contrevaloir*, to avail against—from L. *contra*, *valĕrĕ*, to be strong]: to act against with equal force or power; to equal; to balance. **COUN'TERVAIL'ING**, imp. **COUN'TERVAILED'**, pp. *-vāld'*.

COUN'TER-VAIR, *kown'tér-vār*: a heraldic fur. It differs from *Vair* by having its cups or bells of the same tinctures placed base against base, and point against point. The tinctures are **OR** and **AZURE**.

COUN'TERVALLA'TION, in **Military Engineering**: chain of posts constructed by the besiegers of a fortified place; it completely surrounds the place at a certain distance, and is intended to prevent sorties of the besieged. The posts are generally small redoubts, either isolated or connected by a line of earthworks. It is only during very protracted sieges that countervallations are constructed. They bear a certain relation to circumvallation (q.v.).

COUNTER-VIEW, n. *kown'tér-vū* [*counter*, and *view*]: an opposite view; a posture in which two persons front each other; contrast. **COUN'TER-VOTE**, v. *-vōt*, to vote in opposition to; to outvote.

COUNTER-WEIGH, v. *kown'tér-wā* [*counter*, and *weigh*]: to weigh against; to counterbalance. **COUN'TER-WHEEL**, v. *-hwĕl*, to move backward and forward in opposition to other movements. **COUN'TER-WORK**, v. *-wĕrk*, to hinder by contrary operations; to counteract.

COUNTESS, n. *kownt'ĕs* [F. *comtesse*, fem. of *comte*—see **COUNT 2**]: the wife of an earl or count.

COUNTING, n. *kownt'ĭng* [see **COUNT 1**]: reckoning; computing. **COUNTING-HOUSE** or **-ROOM**, the room or house appropriated by a trader, manufacturer, or merchant, for keeping their business-books, accounts, etc.

COUNTLESS, a.: see under **COUNT 1**,

COUNTRY—COUNTY CORPORATE.

COUNTRY, n. *kŭn'trĭ* [F. *contrée*, country—from It. *contrada*, the district lying opposite you—from mid. L. *contrātā*, the country lying before or opposite—from L. *contra*, over against—*lit.*, land seen before you, as by mariners from the sea]: the land or territory occupied by a people or nation; rural districts; a kingdom or state; any tract of land; one's residence or native soil: **ADJ.** pertaining to the districts beyond a town; rural; rustic; untaught; rude. **COUNTRY SEAT**, a residence at a distance from a town or city. **COUNTRYMAN**, a rustic; one not a native of town; one born in the same country. **COUNTRIFY**, v. *kŭn'-trĭ-fĭ*, to make or alter so as to have a rural or countrified appearance; to make to have the manners or habits of the country. **COUNTRIFIED**, a. *fĭd*, having the air and mien of a rustic.—**SYN.** of 'country, n.': land; globe; world; territory; region; earth;—of 'countryman': peasant; clown; hind; swain; husbandman.

COUN'TRY DANCE [improperly used for **CONTRA DANCE**, Fr. *contre-danse*, of which the English term is a corruption]: dance in which as many couples can take part as there is space to accommodate them; at the commencement, the gentlemen being ranged on one side, and the ladies on the opposite. In its figure, the dancers are constantly changing places, leading one another forward and back, up and down, parting and uniting again. The numerous different figures, which give an interest to this dance, are generally designated with a particular name. The music is sometimes in $\frac{2}{4}$ time, and sometimes in $\frac{6}{8}$ time, and the step is more smooth than springing: see **DANCING**.

COUNTY, n. *koun'tĭ* [Norm. F. *counté*; F. *comté*; It. *contea*, a county—from L. *comitem*, a companion (see **COUNT** 2)]: originally an earldom or district under a count; a particular division or district of a state or kingdom; a shire. The terms county and shire are applied on no uniform principle. In England and Scotland, the shires are also called counties; but in Ireland, the term C. seems to be exclusively employed. Such, likewise, appears to be the case in the British colonies and United States: see **SHIRE**.—In the United States, county is the political division of a state, except in La. where the counties are called parishes. There are nearly 4,000 counties in the U. S. Each county has a court and a prison, sometimes more than one of these. The supervisors of the various townships in a county are a board of administration for financial and other affairs of the county. They are elected by popular vote. In some cities, wards correspond to townships, and the common council acts as the administrative county board. **COUNTY-TOWN**, the chief town of a county where the district courts and markets are held.

COUNTY, n. *koun'tĭ*: in *OE.*, for **COUNT**, frequently found in Shakespeare.

COUN'TY CORPORATE, in England: one of certain cities and towns, some having territory annexed to them, some scarcely any, which possess the privilege of being governed by their own sheriffs and other magistrates alto-

gether independently of the counties in which they are situated. The act 3 Geo. I. c. 5, for regulating the office of sheriff, enumerates twelve cities and five towns in this position. The cities are London, Chester, Bristol, Coventry, Canterbury, Exeter, Gloucester, Lichfield, Lincoln, Norwich, Worcester, and York. The towns are Kingston-upon-Hull, Nottingham, Newcastle upon-Tyne, Poole, Southampton. Coventry ceased to be a county corporate 1842; and Berwick on-Tweed is now one of the eighteen. There is one similar county corporate in Scotland (Edinburgh); and in Ireland, eight (as Dublin and Limerick). See LOCAL GOVERNMENT.

COUNTY COURTS: Courts having jurisdiction in counties. According to Blackstone, the *Sciremote* or ancient county court was established in England by Alfred the Great about 870; the suitors themselves being the judges. Henry II. appointed justices of assize courts, 1176, and thus the C. C. became superseded for judicial purposes. There is still a remnant of jurisdiction left in these ancient courts, unconnected, however, with the recovery of debts; outlawries of absconding offenders are here proclaimed, and certain proceedings connected with the election of coroners, knights of the shire, etc. take place in the old county court.

The modern C. C. were established in all the cities and large towns of England and Wales, 1846, chiefly by the efforts of Lord Brougham; and the courts commenced business, 1847, March. In 1865 an equity jurisdiction was conferred on the C. C. to £500, and the judges have all the power and authority of the Court of Chancery in equitable suits.

The C. C. are courts of record. In England and Wales there are 499 courts, divided into 55 circuits, presided over by 56 judges. The judges are appointed by the Lord Chancellor, or, where the whole district is in the duchy of Lancaster, by the chancellor of that duchy. Their salaries, owing to extended jurisdiction, are now nearly all £1,500, and have, with slight variations, been made uniform throughout the country. Judges resigning from permanent disability are allowed a retiring pension not exceeding two-thirds of their annual salary. Each court has a registrar, appointed by the judge. In certain classes of cases a jury may be demanded. The number of jurymen to try a cause in C. C. is five. There were only 993 causes tried by a jury in 1878, out of 616,490 causes tried. The plaintiff obtained a verdict in 599,883 cases, and the defendants obtained verdicts or non-suits in 16,607 cases. There is a right of appeal in all cases where more than £20 is claimed, and by leave of judge in all other cases. There were only 87 appeals in 1878.

There is no uniformity in the judicial systems of the states in the American Union, either in the number, name, character, or jurisdiction of C. C., the mode of selecting judges, or their tenure of office. In the majority of populous cos. there are at least four courts, the sessions, oyer and terminer, common pleas, and orphans'. In some, the sessions' courts are divided into quarter. general, and spe-

cial, each with a separate judge. The surrogate of the co. of New York has an independent court of original jurisdiction. In other states and cos., the probate of wills, settlement of estates, and protection of widows and orphans, may be conducted before any judge having jurisdiction in the co., the surrogate merely acting as clerk. Again, in some states, judges have only jurisdiction in the co., district, or circuit to which they are elected or appointed and assigned, or in a single designated court; while in other states, N. J. for example, a judge of the supreme court is competent to preside over any court in the state. Judges are now elected by popular vote in 30 states, for terms ranging from 2 to 21 years. In Mass., N. H., Conn., Vt., R. I., and N. J., they—as are also the co. prosecutors—are appointed by the gov. and confirmed by the senate for terms that vary, but average 7 years, and reappointments are frequent. The custom of selection by appointment is becoming more general, with tenures extending through good behavior. See JUDICIARY IN THE UNITED STATES.

COUNTY PALATINE: in England, a county formerly possessing peculiar privileges. The name, derived from *palatium*, palace, was applied because the earls who owned the counties had grand palaces and maintained themselves in almost regal state. Within their jurisdictions, these owners enjoyed such royal powers as the pardoning of crime and issue of various writs. The courts of the C. P. had exclusive jurisdiction in law and equity of all cases arising within the limits of their respective counties, the judges who held them sat by special commission from the owners of the several franchises and under their seal, and all process was taken in the name of the owner of the franchise, though subsequently to the 27 Hen. VIII. c. 24 it ran in the king's name. These counties have either passed into the hands of the crown, or have lost their peculiar privileges to a great degree.

COUNTY RATE: local tax in England and Wales, for defraying the expenses to which counties are liable; such as the maintenance of bridges, jails, lunatic asylums, prosecutions and costs incident thereto, coroners, etc. It is levied on all property liable to be assessed for the relief of the poor. Rogue-money in Scotland, and the grand jury cess in Ireland, are the taxes most nearly resembling the English county rate.

COUP, n. *kô* [F. *coup*—from OF. *colp*—from It. *colpo*—from mid. L. *colpus*, a stroke]: a blow; a stroke. COUP-DE-GRACE, n. *kô'dě-grâs'* [F. stroke of mercy]: finishing-stroke; death-stroke. COUP-DE-MAIN, n. *kô'dě-măng* [F. stroke of hand]: in *mil.*, a sudden and vigorous attack to capture a position. COUP-DE-SOLEIL, n. *kô'dě-sôl-êl'* [F. a stroke of the sun]: a disease produced by exposure of the head to the rays of the sun; sunstroke (q.v.). COUP-D'ÉTAT, *kô'dă-tă'* [F. a stroke of state]: a sudden and decisive blow; arbitrary encroachment suddenly effected by any of the governing authorities on the constitution of the state, altering or setting aside the prerogatives of other parts of the

body politic: in *politics*, a stroke of policy. **COUP-D'ŒIL**, n. *kô-dāl'* [F. a stroke or glance of the eye]: a general view of anything, comprehending in one survey all the relations of a complicated affair: in *art*, the general effect of a picture or group at first sight. **COUP DE THEATRE**, a trick of the stage to produce an effect by surprise; thence, any analogous proceeding.

COUP, v. *kowp* [Icel. *kaup*, a bargain, a sale; *kaupa*, to bargain, to sell]: in *Scot.*, to bargain; to barter; to overturn: N. a bargain: see **COPE** 3.

COUPÉ, n. *kô-pū'* [F. *coupé*, cut, broken: connected with **COUP**]: the front division of a stage-coach or diligence.

COUPED, *kôpd* [Fr. *coupé*], in Heraldry: head, or any limb of an animal cut off from the trunk, and smooth. It is distinguished from *erased*, i.e., forcibly torn 'off, and therefore ragged and uneven. A distinction is made also between *coulped* and *couped close*, the latter signifying that the head or limb is cut off close, leaving no part of the neck or trunk attached to it. When crosses, bars, bends, and the like, are cut so as not to touch the sides of the escutcheon, they also are said to be coupéd.

COUPLE, n. *kūp'l* [F. *couple*—from L. *copŭla*, a band or tie]: the chain or tie that holds dogs together; two or a pair; the male and female; a man and his wife; two of the same species or kind taken together; a brace; in *math.*, a pair of forces acting on a body on each side of a fixed point, so as to turn the body round this fixed point: V. to link, chain, or unite one thing to another; to fasten together; to unite as man and wife; to marry. **COUPLING**, imp. *kūp-ling*: N. that which couples or connects, as the *coupling* of two railway carriages; in an *organ*, a register (handle or knob controlling action) by which two or more rows of keys can be connected by a mechanism so that they can be played together. **COUPLED**, pp. *kūp'ld*. **COUPLET**, n. *kūp'lèt* [F.]: any two lines which rhyme; a distich; but the term is more frequently used by critics to denote two lines which contain the complete expression of an idea, therefore to a certain extent independent of what precedes or follows. The poetic wits of the age of Queen Anne excelled in this kind of aphoristic versification. Pope, it has been said, reasons in couplets: for example:

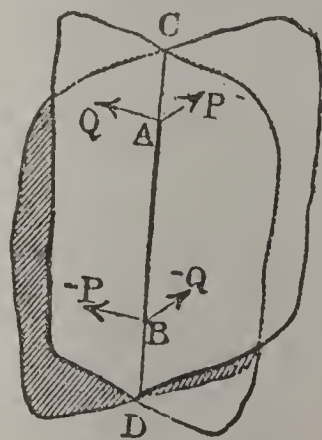
'Tis with our judgment as our watches, none
Go just alike, yet each believes his own.'

COUPLES, n. plu. *kūp'ls*, a pair of opposite rafters in a roof nailed at the top where they meet, and united by a beam of wood at the bottom. **COUP'INGS**, n. plu. sliding boxes or nuts that connect the ends of a tube, or one tube or shaft to another. **COUPLEMENT**, n. *kūp'l mēnt*, in *OE.*, a pair; two or more together. **COUPLING-PIN**, a bolt used for connecting railway carriages, and for certain parts of machinery.

COUP'LES, in Statics: pairs of equal parallel forces acting in opposite directions, and at different points of a body. When two parallel forces act in opposite directions on a

body, they may be replaced by one equal to their difference acting parallel to them in the direction of the greatest, at a point *not* between but *beyond* the points where they are applied; and which point recedes the further from their points of application the nearer they approach equality, receding to an infinite distance when they become equal, and when their resultant accordingly is zero: (see PARALLEL FORCES). In this limiting case, the forces constitute a couple; they have no tendency to *translate* the body; their action goes wholly to make it rotate about an axis passing through its centre of gravity, and perpendicular to the plane in which the couple acts. Such being the case, a couple cannot be replaced or counteracted by any single force, for such a force would produce translation; it can only be replaced or balanced by other couples. The length of the straight line which meets the lines of action of the forces at right angles is called the 'arm' of a couple, and the product of the force into its arm is called its 'moment.'

Most of the leading propositions in the theory of C. are readily seen to be true, as soon as stated. For instance, as the axis round which a couple tends to make a body rotate passes through the body's centre of gravity perpendicularly to the plane of the couple, it does not matter what position the couple occupies in its own plane. Also, supposing the body to be rigid, the couple may be moved into any plane parallel to its own, provided its new position be rigidly connected with the original position. It is obvious also, on the principle of the lever, that the efficiency of the couple depends on its moment simply, so that its arm may be shortened or lengthened at pleasure, provided the force be increased or diminished as the case may require, so as always to make the product of the force and arm the same. Suppose ropes fastened at the bow and stern of a ship pulling with equal force in opposite directions; they will make the ship turn round an axis through its centre of gravity, at a rate depending on the force applied to the ropes. If the ropes be fastened to opposite points of the vessel nearer midships, it will turn round at the *same* rate, only provided the force applied to the ropes be *increased*; and, on experiment, it would be found that the force must be increased so as that its product into the distance between the ropes shall equal the product of the force in the first case into the length of the ship. Through this we can compound C. acting in the same plane, for we can turn them round till their arms coincide, and then give them a common arm; their forces will then act in the same lines, when their resultant into the arm will be the new couple. So two C. situated in planes inclined at any angle to each other may be replaced by a single couple (see fig). Suppose the C. both to be moved in their respective planes till their arms coincide with the line of intersection of the planes, CD.



Bring them then to a common arm in this line, AB. At each end of this arm we shall have a pair of forces, say P and Q, inclined to one another at the angle of inclination of the planes. Their resultant, by the composition of forces, will be a force R, acting in a line between the planes. We shall have then forces R acting at each end of the arm, and evidently in directions parallel and opposite. $R \times \text{arm, AB,}$ then, is moment of the resultant couple. Having seen how to compound C. whose planes are inclined to one another, the theory of the composition of C. may be said to be complete, for if they are in parallel planes, we know we can bring them into the same plane and to a common arm, and so into a common couple. In statical theory, any number of forces acting on a body, and not in equilibrium, may be reduced to a single force, a single couple, or a single force and a single couple. We have shown that the C. may all be reduced to one, as well as those forces which do not produce couples. If the single force do not act perpendicularly to the plane of the couple, it can always be compounded with the forces of the couple, so as to reduce the whole to a single force; if it act perpendicularly, then it cannot be compounded with the couple, and the body will have at once a motion of translation and motion of rotation.

COUPON, n. *kô'pông* [F. *coupon*—from *couper*, to cut or cut off]: warrant or note or check, billet, certificate, etc., attached as a counterpart to transferable bonds: coupons are successively cut off to be presented for payment of dividends as they fall due: the term is applied chiefly to a dividend or interest warrant, to be presented for payment by holders of debentures such as government bonds.

COUPURE, n. *kô'pûr* [F. *couper*, to cut]: in *mil.*, an intrenchment of any kind formed behind a breach, whose objects is to enable the besieged to prolong the defense; a ditch and parapet made through the rampart as far as the revetment.

COURAGE, n. *kûr'āj* [F. *courage*—from OF. *corage*—from mid. L. *coraticum*—from F. *cœur*, heart, courage— from L. *cor*, the heart: comp. Gael. *curaidh*, a hero; *curaisd*, courage]: strength of mind; bravery; fearlessness; valor; resolution; that quality of mind which enables men to encounter dangers and difficulties with firmness and without fear. COUR'GEOUS, a. *-ā'jûs*, brave; fearless; daring; endowed with firmness; without fear. COURAGEOUSLY, ad. *-lî*, in a courageous manner; stoutly; boldly. COURAGEOUSNESS, n. *-jûs-nēs*, the quality of being courageous; bravery.—SYN. of 'courage': intrepidity; daring; gallantry; heroism; hardihood; firmness; boldness; resolution; audacity;—of 'courageous': bold; intrepid; undaunted; valiant; gallant; heroic; valorous; hardy; enterprising; adventurous.

COURANT, n. *kû-rânt'* [F. *courant*, running—from F. *courir*, to run—from L. *curro*, I run]: that which spreads news very quickly; a newspaper: in *heraldry*, a., running. COURANTO, n. *kû-rân'tô*, a piece of music in triple time.

COURB—COURIER.

COURB, v. *kórb* [F. *courber*, to bend, to bow—from *courbe*, a curve—from L. *curvus*, crooked, curved]: in *OE.*, to bend or bow; to stoop as a suppliant. **COURB'-ING**, imp. **COURBED**, pp. *kórbd*.

COURBET, *kór-bā'*, **GUSTAVE**: 1819, June 10—1877, Dec. 31; b. Ornans, France: painter. He was sent to Paris to study law 1839, but soon changed his mind, took lessons in art, studied the works of famous Florentine, Venetian, and Flemish artists, and began exhibiting 1844. His works comprised, portraits, landscapes, and genre pieces, and he soon became noted for studies of the nude female form. In 1855, dissatisfied with the places assigned some of his paintings in the Salon exhibition and the rejection of others, he withdrew all his works, erected a building near the Salon, and there exhibited 40 paintings at a small admission fee. In 1860, the jury of the Munich exhibition assigned him an entire room. He held extreme views in art, religion, and politics, was an early adherent of the commune, directed the overthrow of the Vendôme column, was prohibited exhibiting 1872, and was condemned to pay the cost of a new column on the Place Vendôme 1873, for which his property was confiscated and sold.

COURBEVOIE, *kór-béh-vwá'*: town of France, dept. of Seine, on the left bank of the river Seine, about 5 m. n.w. of Paris. C. has well-built houses, mostly supplied with gardens, and large barracks erected by Louis XV. Its principal manufactures are white-lead and brandy, and it has some commerce by the Seine. Pop. (1886, 15,937.

COURGNÉ, *kórn-yā'*: market-town of Piedmont, at the foot of a hill on the w. side of the Orca, 12 m. w.s.w. of Ivrea. It has several convents. Pop. 5,600.

COURIER, n. *kúr'î-ér* [F. *courrier*; OF. *courier*—from L. *curro*, I run]: a runner; a special messenger with letters or dispatches from a distance; a travelling servant attached to a family.—There are two distinct classes of couriers, *Government* and *Private*. The first are employed by government to carry, securely and expeditiously, important dispatches to and from ambassadors at foreign courts. Active, and accustomed to travel, speaking several languages, and with a sufficient idea of their own consequence, they will set out at a moment's notice, pursue their way by steamer, by rail, by hired voiture, or on horseback, with little intermission by night and by day, until they reach their destination. Acquainted with routes, officials, and methods of clearing the way, and provided with all proper credentials, including a requisite supply of cash, nothing interrupts them in their eager course.

Private Couriers.—These have similar accomplishments to the first class, but are in the service of private parties. They are usually persons of middle age, natives of Switzerland, France, or Germany, who have either been at some time gentlemen's familiar servants, or been long employed as attendants on families travelling. In some instances, they are of English origin, and have travelled

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again and again through Europe with employers who relish the dignity of having a man-servant, and dislike personal responsibility and trouble. Of whatever nativity, the courier has settled down into a perfectly cosmopolitan character. With equal fluency, he speaks English, French, Italian, and German, with perhaps Spanish, Portuguese, and Russian; he is acquainted with processes of getting passports and visés; knows the best routes, the best hotels, and where anything notable or curious is to be seen. Acting for the time as a servant, he is not intrusive. Whether by railway or steam-boat, he knows his place, and makes his appearance only when he is wanted. No doubt, the courier is an expensive luxury; his usual wages being from \$40 to \$50 a month, independently of travelling-fares. His keep at inns, though nominally paid by himself, practically weighs with the hotel-keeper in making out the bill. 'A courier, however, though an expensive luxury, is one which conduces much to the ease and pleasure of travelling, and few who can afford one will forego the advantage of his services. He relieves his master from much fatigue of body and perplexity of mind, in unravelling the difficulties of long bills and foreign moneys, sparing his temper the trials it is likely to endure from disputes with innkeepers, postmasters, and the like. If clever and experienced, and disposed to consult the comfort of his employer, he is a most useful person. His duties consist in preceding the carriage at each stage, to secure relays of post-horses; he must make arrangements for his employer's reception at inns where he intends to pass the night; must secure comfortable rooms, clean and well-aired beds, and order meals prepared and fires lighted, taking care that his master is called and the post-horses ordered at the right hour. He ought to have a thorough knowledge of everything that relates to a carriage; he should examine it at the end of each day's journey, to ascertain whether it requires any repairs, which should be executed before setting out. He should superintend the packing and unpacking of the luggage, etc. It falls to the courier to pay innkeepers and post-boys; and he ought to take care that his master is not overcharged. Besides this, he performs all the services of waiting and attendance, cleaning and brushing clothes; and he is not perfectly accomplished unless he has a smattering of the art of cookery' (Murray's *Hand-book for Travelers on the Continent*). As among ordinary domestics, there are honest and dishonest C., and it is of importance that travellers should not hire them without proper recommendations as to character. For places at which C. are to be heard of, see the work above quoted: also Bradshaw's *Continental Railway Guide*. In Paris, information respecting them may be obtained at Meurice's Hotel.

COURIER, *kô-re-û'*, PAUL LOUIS: 1772, Jan. 4—1825, Apr. 10; b. Paris: French political writer. He was educated for the army, but, without neglecting military studies, he showed special predilection for ancient literature. In 1793 he became lieut. of artillery, served in the Italian

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campaign 1798-9, and in 1803 was appointed *chef-d'escadron*. After the battle of Wagram, he tendered his resignation, which was accepted. He went to Switzerland and Italy, returning to his native country 1812. Before this he had been known publicly only by his translations from the classics. In 1816 he appeared for the first time as a political pamphleteer, and rapidly obtained a brilliant reputation. The piece in which he made his *début* was the *Petition aux Deux Chambres*. In 1819-20, he published in a journal, called *Le Censeur*, a series of letters containing an exposition of his political ideas, which were those of an ardent constitutional reformer. These letters, for keenness, wit, and eloquence, have been compared to those of Pascal. His *Simple Discours* (1821) was directed against the project then entertained of purchasing Chambord for the Duc de Bordeaux in the name of the nation. It is exceedingly vigorous, clever, and sensible, and had great success. For his audacity, he was tried and condemned to one month's imprisonment. In 1823 he published his *Livret*, a kind of memorandum-book; and in 1824 his *Pamphlet des Pamphlets*, finely called by Armand Carrel *Le Chant du Cygne* (the Swan's Death-song). His death was by assassination near his own house at Verctz, dept. of Indre-et-Loire, a little before sunset the murderer was never detected. C. was the pamphleteer of the middle class. Manly earnestness, pleasant wit, cutting irony, and admirable sense are his characteristics. Time, which generally dims the lustre of a pamphleteer's reputation, has not touched that of C., which is still as bright as ever.

COURLAN, *kôr'lan*: bird of the genus *aramus*, sometimes classified with the rail family, generally chocolate-brown in color, with white-streaked feathers, toes cleft to the base, and broad rounded wings 13 inches long. It is a wading bird, the only one of its family, has a peculiar cackling cry, attains a length of $27\frac{1}{2}$ inches in Fla. and the W. Indies, but is much larger and less streaked with white in S. America, and is a rapid runner and short flyer.

COURLAND or KURLAND, *kôr'land*: Russian government, a province of what are called the Baltic provinces; lat. 56° — 58° n., long. 21° — 27° e. It was formerly an independent duchy—properly, indeed, two duchies, Courland and Semgall—and belonged, with Livonia, to the Teutonic Knights. The difficulty of resisting the Russians led to the acknowledgment, 1561, of the feudal sovereignty of Poland; and the last grand-master, Gotthard Kettler, secured the duchies of Courland and Semgall for his family. The country was long distracted by the contentions of two parties, one Russian and the other Polish; and after being for some time completely under Russian influence, and the scene of many Russian intrigues, it was finally united to Russia, 1795. It has about 10,500 sq. m.; is generally level, with ranges of low hills, and contains many lakes, bogs, forests, and downs, but some parts have a very fertile soil. The proprietors of land are mostly German; the peasantry, of Lettish or Esthonian extraction, are engaged chiefly in

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husbandry; there is little manufacturing industry or commerce. The capital is Mitau, but the most flourishing town is Libau.—Pop. of C. (1880) 682,000, mostly Protestants; (1890) 676,582; (1897) 672,634.

COURSE, n. *kōrs* [F. *cours*—from L. *cursus*, a course, a journey—from *curr*, I run: It. *corso*]: a swift journey; a career; a race; the ground on which the race is run; generally a passing, moving, or motion forward within limits; the progress of anything; usual manner; order of procedure; way of life or conduct; natural bent; the dishes set on table at one time; elements of an art or science exhibited and explained in a series of lessons or lectures, as a course of chemistry; a continued range of stones or bricks in the wall of a building, of approximately uniform thickness; the track of a ship: V. to run through or over; to hunt; to chase; to move with speed. **COUR'SING**, imp.: N. the sport of chasing and hunting hares with grayhounds. **COURSED**, pp. *kōrst*. **COUR'SER**, n. *-sēr*, a swift horse; a war-horse; a very swift running bird inhabiting s. Europe and n. Africa. **COUR'SES**, n. plu. *-sīs*, in a *ship*, the principal sails, the lower sails—comprising main-sail, fore-sail, main-stay-sail, fore-staysail, and mizzen-staysail: above the courses is the group of top sails, and the highest of all the group of top-gallant sails: in *geol.*, thin regular strata, from their being superimposed upon one another like the hewn courses of a building; the menses. **OF COURSE**, by consequence; that naturally follows, as, a *matter of course*. **IN THE COURSE OF**, at some time during.—**SYN.** of 'course, n.': road; way; passage; route; race; manner; method; succession; mode; series; progress; advance; track; direction; procedure; sequence; conduct; behavior; regularity.

COURS'ING: method of hunting hares by greyhounds, in which the dogs follow the game by *sight*, instead of by *scent*. C. is of very ancient date, having been practiced by the Greeks. Within the last 20 years, its popularity as a sport has greatly increased, and the breed of the greyhound is now studied in England with almost as much care and zest as that of the race-horse. The method is as follows:

Meetings are held in open districts, well frequented by hares, where the greyhounds—technically called 'dogs,' as foxhounds are technically called 'hounds'—are entered by their owners for a variety of stakes, which are to be competed for—C., in this respect, partaking of the nature of a race between horses. The first thing done is to select a judge to decide upon the merits of the best dogs; second, a 'slipper' is appointed to hold the dogs in leash, and start them at the hare; and, third, a flag-steward is chosen, who remains near the judge and announces the color of the victorious dog by means of a red or white flag, according as the competitors are arranged. The next thing done is to 'beat' the field for a hare. When one is found, the judge usually allows it 80 or 100 yards 'law' before he cries to the 'slipper' to let the dogs 'go.' Upon the word 'go,' the 'slipper' liberates the animals by a spring attached to the 'slips'—i.e., the long strong cord held by the 'slipper'

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and communicating with the leathern collars fixed round the necks of the dogs. The judge's duties now begin in earnest. He follows the dogs wherever they go, calculating carefully the number of 'points' made by each—a 'point' being any meritorious achievement on the part of the dogs (as when the one outstrips the other at any time, or turns the hare, i.e., causes it to 'double'); and at last he adjudges the victory, not *necessarily* to the dog which has killed the hare, but to the one which has made the most points during the course, i.e., which has exhibited the finest qualities of speed, sagacity, endurance, etc.

COURT, n. *kōrt* [F. *cour*—from OF. *court*; It. *corte*—L. *cohortem*, a cattle-yard, an inclosed place: comp. Gael. *coir*, a circle or inclosure where justice was administered; allied to Polish *gród*, city; Sw. *gård*; Eng. *yard* and *garden*]: an open space of ground attached to a house inclosed by a wall or fence; a small paved square or space surrounded by houses; the palace of a king, also the persons attached to his person as attendants, council, etc.; a place of justice, likewise the judges and officers engaged there; civility; flattery; the art of pleasing: V. to endeavor to please; to woo or pay addresses to a woman; to solicit; to seek. COURT'ING, imp. COURT'ED, pp. *kōrt'ēd*. COURT'SHIP, n. the act of soliciting favor; paying addresses or making love to a woman. COURT'IER, n. *-yēr*, a man who attends at the courts of princes seeking for favors or advancement; one who flatters to please. COURTEOUS, a. *kērt'yūs* [OF. *cortois*]: affable; polite; civil; obliging; of elegant manners. COURT'EOUSLY, ad. *-lī*. COURT'EOUSNESS, n. COURTLY, a. *kōrt lī*, elegant; refined; worthy of a court: AD. in the manner of a court. COURT'LINESS, n. *-nēs*. COURTESAN, n. *kērt'ē-zān* [Sp. *cortesana*—from *corte*, court]: a woman of loose virtue. COURT-MARTIAL, n., a court of justice composed of military or naval officers for the trial of offenses committed in the army or navy. COURT-PLASTER, a black sticking-plaster—formerly used in patches on the face by ladies as ornaments or beauty-spots. COURT-YARD, an inclosed space before a house: see FARM BUILDINGS. COURT-CARDS [a corruption of *coat* or *coated card*]: pictured cards; in *card-playing*, king, queen, and knave of a suit. COURT-DAY, a day on which a court sits to administer justice. COURT-DRESS, a dress suitable for appearing at court, or a levee. COURT-LEET, *-lēt* [Dut. *laet*, a peasant tenant]: the court of the copyhold tenants, as opposed to the COURT-BARON for the freeholders of the baron; a court of record held within a lordship or manor for the disposal of minor offences: see COMMON LAW, COURTS OF.—COURT OF COMMON PLEAS: see COMMON LAW, COURTS OF.—SYN. of 'courteous': condescending; accessible; obliging; well-bred; complaisant.

COURT: originally, the square or space inclosed by the buildings of a feudal castle; hence, the persons immediately surrounding a feudal chief or superior. In this application it now denotes the residence and surroundings of sovereign princes. In England, and other free countries

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'the court' means little more than the family and attendants of the sovereign, viewed not in a private but a public capacity. The bishops and nobles, the ministers of the Queen for the time being, and other persons entitled to precedence, either on hereditary, official, or personal grounds, are those who habitually encircle the sovereign; 'the court circle,' consequently, means those persons of distinction and their families, who are in the habit of approaching the Queen, and of associating with the other members of the royal family. But this circle is one the circumference of which is marked by no absolute line, like that which in France, under the old monarchy, divided the C. from the city.

COURT, in law: see COURTS OF JUSTICE (References).

COURT, *kôr*, ANTOINE: 1696, May 17—1760, June 15; b. Villeneuve de Berg, France: Prot. minister. His parents, humble peasants and stanch adherents of the persecuted Reformed Church, were unable to give him even an ordinary education, but brought him up to fear God and to study the Scriptures. When he was 8 years old the Camesard revolt was suppressed, and when 17 he began attending the secret meetings of the Protestants and exhorting the devoted congregations. Two years later, Louis XIV issued a decree declaring that all who professed the Reformed faith should be punished as relapsed heretics. This proclamation, added to the long course of persecution by the govt., determined him to attempt to deliver the Protestants and build up their church. He began his labors by insisting upon the holding of regular meetings for religious instruction and worship; the suppression of the fanaticism of 'inspired teachers' and the disorders that it created; the restoration of ecclesiastical discipline through the establishment of consistories, conferences, and synods; and the systematic education of pastors. He formed congregations at Languedoc, Dauphiné, and Provence, organized the Church of the Desert, and, when a price was set on his head, fled from France to Lausanne, 1730, where he founded a theological seminary of which he was pres. till his death.

COURT, PRESENTATION AT: personal introduction into the presence of a sovereign, with the ceremonial accompanying. This honor, obtained only by persons of respectable position, is sought not only for the *éclat* of the ceremonial, but as giving a certain stamp of character; for, having been received by the sovereign, a person may with justice expect to be received anywhere. Valuable so far as a credential, a reception at C. is carefully guarded from abuse. At the C. of Queen Victoria, there is scrupulous exclusion of all men or women of damaged reputation. Those who aim at the distinction of being presented at C. belong chiefly to what are called the higher circles—nobility and landed gentry; officers in the army, navy, and higher departments of the civil service; judges, magistrates, church-dignitaries, members of the learned professions; and the wives and daughters of these respective classes. Men of

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scientific, literary, or artistic attainments do not generally attempt to appear at C.; neither do the classes engaged in trade. It is usual to be presented on taking office, or on attaining some personal dignity, or on arriving from an important and distant expedition. Young ladies of good family are said 'to come out,' on being presented at court. What perhaps contributes more than anything else to secure selectness, is the obligation of appearing in 'court-dress,' an expensive and fantastic costume of old date; from which only those who assume professional uniforms are exempted. As is well known, the court-dresses of ladies are superb. Some of the usual notions among foreigners arriving in England—those from the United States in particular—as to the practicability of indiscriminate presentation at C., are erroneous. It is the duty of the lord chamberlain at St. James's to furnish information regarding the steps to be adopted by those who desire to be presented at C., either at levées, which are restricted to gentlemen, or at drawing-rooms, which are chiefly, though not exclusively, for ladies. The days on which these receptions take place are advertised in the newspapers some days before, with necessary directions for preventing confusion. Her majesty's birthday is the occasion on which the greatest reception of the year takes place, but there are no new presentations on that day. Any British subject who has been presented at C. in England, can claim to be presented by the British ambassador at any foreign court. Those who wish to be mere spectators can obtain tickets to the corridor, where they see the company passing in and out, by applying to the lord chamberlain. For this purpose, however, an introduction is required. It is indispensable that the names of gentlemen desiring to be presented, and of the nobleman or gentleman who is to present them, be sent to the lord chamberlain's office several days previously, in order that they may be submitted for the queen's approbation. Gentlemen are also requested to bring with them two large cards, with their names clearly written upon them, one of which is left with the queen's page in the presence-chamber, and the other is delivered to the lord chamberlain, who announces the name to her majesty. The same rules apply to ladies. Lists of presentations appear next day in the principal London newspapers.

COURTALLUM, *kôr-tâl-lûm'*: town of the dist. of Tinnevely, presidency of Madras; lat. $8^{\circ} 56'$ n., and long. $77^{\circ} 20'$ e., near the junction of the eastern and western Ghauts. Open toward the e., at a height of 700 ft. above the sea, it is elsewhere embosomed in hills, having, in its immediate neighborhood, a deep glen which affords easy communication between the opposite shores of Hindustan. The place is a favorite retreat for invalids, deservedly enjoying a reputation for salubrity of air, richness of vegetation, and beauty of scenery. The indigenous flora comprises 2,000 species; and many exotics, such as the nutmeg, clove, and cinnamon, have been introduced with success.

COURTESAN—COURTESY TITLES.

COURTESAN, n.: see under COURT.

COURTESY, n. *kér'tě-sĭ* [from *court*: F. *courtiser*, to pay court to, to flatter; *courtoisie*, civility]: the polish and polite manners of the court; politeness of manners combined with kindness; civility; an act of civility or respect; favor not by right. COURTESY, n. *kért'sĭ*, an act of respect or reverence paid by a woman: V. to perform an act of respect, etc., as a woman. COURTESYING, imp. or *kért'-sĭ-ing*. COURTESIED, pp. *kért'sĭd*.—SYN. of 'courtesy = *kér'tě-sĭ*': politeness; urbanity; complaisance; civility; elegance, etc.

COURTESY, or CURTESY, in Law: life interest which, in England and Scotland; the surviving husband has in the real or heritable estate of the wife. It is remarkable that, both in England and in Scotland, this customary right should be regarded as a national peculiarity—that in England it should be called the C. of England, and in Scotland the C. of Scotland—whereas it is well known to be peculiar to neither of them. Traces of it are to be found in a constitution of the emperor Constanstine (Code 6, 60, 1); and there can be no doubt that it has found a place, with all the peculiarities which now belong to it, in the *coutume* of Normandy. The four circumstances which are requisite to make a tenancy by C. in England are—marriage, seizin of the wife, living issue (living at time of birth), and the wife's death. In both countries, the child must be the mother's heir; and it is consequently said that C. is due to the surviving husband rather as the father of an heir than as the widower of an heiress. See SETTLED ESTATE, for English law on one point; for Scottish law, see Hunter on Landlord and Tenant, i. p. 119.

COURTESY TITLES: titles assumed by or given to individuals, and which have no validity in law, not having been imparted by the sovereign or other competent authority. The term C. T. is best known in connection with the titles given by popular consent to the sons and daughters of certain English peers. C. T. are to foreigners a perplexing part of the highly artificial social system which prevails in Britain. English dukes, marquises, earls, and viscounts have several titles, accumulated by distinct patents in their progressive steps in the peerage. Thus, a duke may at the same time be a marquis, an earl, a baron, and a baronet; a marquis may be also an earl, etc.; and an earl is almost always a baron. In ordinary parlance, they respectively take only their highest title. One of the inferior titles so set aside is permitted, as a matter of social dignity, to be assumed by the eldest son. For example, the Duke of Bedford being also Marquis of Tavistock, his eldest son takes the title of Marquis of Tavistock; and the Duke of Buccleuch and Queensberry being also Earl of Dalkeith, his eldest son takes the title of Earl of Dalkeith: such titles are of the class called courtesy titles. When it happens that the inferior title is of the same name as the first, there is a somewhat different usage. For example, the Earl of Gosford being also Vis-

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count Gosford, his eldest son, to prevent confusion, takes only the family surname, Acheson, with the prefix Lord—Lord Acheson. The youngest sons of dukes and marquises have the courtesy title of Lord prefixed to their Christian and surname: as, for example, lord Frederick Charles Cavendish, a younger son of the Duke of Devonshire; or Lord Archibald Campbell, a younger son of the Duke of Argyll. The eldest son of an earl, when not a viscount, takes his father's second title of lord: as, for example, the eldest son of the Earl of Wemyss is styled Lord Elcho. It is to be kept in mind, that titles by courtesy do not raise their bearers above the rank of commoners; that, consequently, they are eligible for election as representatives to the house of commons. Very many of the peers, indeed, begin their political career as county or borough representatives under their C. T., serving in this way a kind of apprenticeship as statesmen before they are advanced, by the decease of their fathers, to the house of lords.

The daughters of dukes, marquises, and earls have the title Lady prefixed to their Christian and surname; and in the event of their marrying a person of inferior rank, they retain the title Lady with their Christian name, adding the surname of their husband. Yet, these are but courtesy titles. The only valid title that they can claim in virtue of their birth, is the prefix Honorable, which is applicable alike to the sons and daughters of peers. The wives of baronets receive the courtesy title of Lady; their lawful designation being Dame. Ladies who have had a title by a first marriage, retain it as a matter of courtesy when they are married a second time, though the alliance be with a person without a title—a circumstance sometimes leading to awkwardness in designation. In Scotland, the eldest son of a baron has the courtesy title of Master. For example, the eldest son of Lord Elibank is styled Master of Elibank.

The title Right Honorable is given in some few instances by courtesy to officials, as in the case of the Lord Advocate for Scotland. The judges of the court of session in Scotland, on first taking their seat on the bench, assume the courtesy title of Lord with their own surname or a territorial title. But such titles are used only senatorially. In writing, the real name is subscribed. The titles of Mr. or Master and Esquire (q. v.), are now given by courtesy to nearly all classes of persons. For an exact definition of titles by courtesy of members of the peerage, see *the Handbook to the Desk*, or any good *Letter-writer*.

COURT-FOOL: jester formerly kept for entertainment in courts of sovereigns and houses of the nobility. From very ancient times there was a class of persons whose business it was to while away the time of the noble and wealthy, particularly at table, by all manner of jests and witty sayings. Alexander the Great, Dionysius of Syracuse, Augustus and his successors, maintained such jesters. It was, however, during the middle ages that this singular and repulsive vocation became fully developed, and that the

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office of jester or fool became a regular and indispensable court office. The symbols of such a personage were—the shaven head; the fool's cap of gay colors, with asses' ears and cock's comb; the fool's sceptre, which was variously formed; the bells, which were mostly attached to the cap, but likewise to other parts of the dress; and a large collar. The rest of the costume was regulated by the taste of the master. Of these professional fools some obtained a historical reputation, as Triboulet, jester to King Francis I. of France, and his successor, Brusquet; Klaus Narr, at the court of the elector Frederic the Wise of Prussia, whose jests have been repeatedly printed; and Scogan, court-fool to Edward IV. of England. The kings and regents in Scotland had their jesters, as was usual in their time; and the sarcastic sayings of some of these privileged personages—such as those of Patrick Bonny, jester to Regent Morton—are still remembered among the national *facetiae*. English court-jesters died out with the Stuarts; one of the last of the race being the famous



Court-fool and Buffoon.

From Harleian MS. fourteen century.

Archie Armstrong, whose death, 1646, took place characteristically, on April 1. Besides the regular fools recognized and dressed as such, there was a higher class, called merry councilors, generally men of talent, who availed themselves of the privilege of free speech, to ridicule in the most merciless fashion the follies and vices of their contemporaries. Of these, Kunz von der Rosen, jester to the Emperor Maximilian I.; John Heywood, a prolific

COURT-HAND—COURT-MARTIAL.

dramatic poet and epigrammatist at the court of Henry VIII.; and Angely, a French courtier, were particularly distinguished for talent and wit. In all times there existed at courts persons who, without becoming jesters by profession, were allowed the privilege of castigating the company by their witty and satirical attacks, or who served as the general butts. Among these were, on the one hand, the Saxon general Kyau, celebrated for his blunt jests; and on the other, the learned Jacob Paul, Baron Gundling, whom Frederic William I. of Prussia, to show his contempt for science and the artificial court system, loaded with titles. Flögel's and Nick's German treatises on this subject, and Dr. Doran's *History of Court Fools*, are interesting works. Such a history forms a kind of barometer of the manners and morals of courts at different times. At a later period, imbecile or weak-minded persons were kept for the entertainment of the company. Even ordinary noblemen considered such an attendant indispensable; and thus the system reached its last stage, and toward the end of the 17th and beginning of the 18th c., was finally abolished. It survived longest in Russia, where Peter the Great had so many fools that he divided them into distinct classes.

COURT'-HAND: name given in England to the old Gothic or Saxon handwriting, as distinguished from the modern or Italian handwriting. The old way of writing continued in the law-courts after it had been superseded elsewhere, and hence its name of Court-hand.

COURT-MAR'TIAL: court for the trial of any one belonging to the army or navy, for some breach of military or naval law. The members of the court fill the functions both of judge and jury. Courts-martial are *general*, *district* or *garrison*, and *regimental*. The first is the only one of the three empowered to award death as a punishment. In the U. S. army it consists of not less than 13 commissioned officers of proper rank; and a deputy judge-advocate is specially appointed to conduct the prosecution: it can be convened only by order of the president, or the general of the army, or an officer in command of a department. A non-commissioned officer, or a private, may be tried by any one of the three kinds of court; but a commissioned officer only by a general court-martial. A *district* or *garrison* C. may be convened by a field-officer commanding, and consists of not less than three commissioned officers, with an officer not lower than a captain to act as judge-advocate: it tries lower officers (non-commissioned, etc.) and the rank and file. A *regimental* C. may be convened by the commanding officer of a regiment or detachment; it consists of not less than three commissioned officers; it treats of minor offenses, and can award only minor punishments.

In all these kinds of C. the members are sworn in; the court is an open or public one; the vote or sentence is decided by majority, the junior members voting first; but two-thirds of the whole number, in a general C. are neces-

COURT OF LOVE—COURT OF SESSION.

sary to give validity to a sentence of death. Before execution, the sentence of every military court-martial has to be approved and confirmed by the convening authority.

Sometimes *Courts of Inquiry* are held instead of a C., not to try or to punish, but to make an investigation; the members not being on oath. Such a court occasionally precedes a court-martial.

Naval courts-martial consist of higher officers, and can be convened only on the order of the president, or the sec. of the navy, or the commander of a fleet,—or, if outside of U. S. jurisdiction, by the commander of a squadron. The C. is open to all the crew and others as spectators.

COURT OF LOVE, in the age of chivalry: assembly of high-born women, in the age of chivalry, who decided questions of courtesy, etiquette, or love according to a rigid code of 31 articles. It was established in Provence, France, in the best days of the troubadours; and after its dissolution, René, king of Anjou, and Cardinal Richelieu attempted in vain to restore it. Among the celebrated women who presided over it were Countess de Die and Laura de Sade. The following specimen of the questions submitted to it for decision has been preserved: A lady listened to one admirer, squeezed the hand of another, and touched with her toe the foot of a third. Query, which of the three was the favored suitor?

COURT OF SESSION: highest civil tribunal in Scotland: instituted in the reign of King James V., by statute, 1532, May 17. The object of its institution was to discharge the judicial functions which originally belonged to the king and his council, and which, since 1425, had in a great measure devolved on a committee of parliament, as the great council of the nation. The C. of S. consisted at first of 14 ordinary judges and a president. One-half of these judges and the president were churchmen, and the practice of appointing ecclesiastics to the bench did not cease for some time, even after the Reformation. In 1830, the number of judges was reduced to 13, and that is still the full number, though since 1877 there have actually been but 12 judges. Of the five lords ordinary, junior judges appointed to sit as an outer house, four only sit daily. The judgments of the outer house, with a few statutory exceptions, are appealable to the Inner House. The youngest judge, or junior lord ordinary, officiates in a separate department of the outer house; called the bill chamber (q.v.), where summary petitions, and other branches of business speculiarly requiring dispatch, are disposed of. In cases of great difficulty, the lords ordinary are called in, and a hearing before the whole court, or *in presence*, as it is called, takes place, with the lord president presiding. The judges are appointed by the crown, and hold their offices for life. With few exceptions, the judgments of the inferior courts of Scotland are reviewable by the C. of S., but this rule does not apply to the small-debt courts. The judgments of the C. of S. may be appealed to the house of lords within two years.

COURTRAI—COUSIN.

COURTRAI, *kôr-trä'* (Flemish *Kortryk*): town of Belgium, province of West Flanders, about 30 m. s. of Bruges; lat. 50° 49' n., long. 3° 18' e. It is built on both sides of the Lys, is surrounded with walls, and has a castle, a citadel, a fine old bridge flanked with Flemish towers, a noble town hall, and a beautiful Gothic church, founded 1238 by Baldwin, Count of Flanders. Though a busy manufacturing place, C. is very clean. Table damask and other linen are principal articles of manufacture. There are extensive bleaching-grounds in the vicinity, and the neighboring plains supply fine flax in large quantities to many European markets. In 1302 the Flemings, citizens of Ghent and Bruges chiefly, won a splendid victory over the chivalry of France beneath the walls of C., more than 700 gilt spurs (worn only by French nobles) being afterwards gathered from the dead by the victors. The battle was hence named Battle of the Spurs. Pop. (1880) 26,943; (1901) 33,495.

COURTS OF JUSTICE: see **JUDICIARY IN THE UNITED STATES**: **COMMON LAW**, **COURTS OF**: **ADMIRALTY COURT**: **ADMIRALTY JURISDICTION**: **COUNTY COURTS**: **COURT OF SESSION**: **CHANCERY**, **COURT OF**: **CHANCELLOR**, **LORD**: **EQUITY**: **JUDGE**: **ATTORNEY**: **ADVOCATE**: **BARRISTER**.

COUS-COUS, n. *kôs'kôs*: a favorite dish in western Africa, composed of millet-flour, flesh, and the leaves of the baobab; called also lalo.

COUSEOUS, or **CUSEUS**, or **SPOTTED PHALANGER**: see **PHALANGER**.

COUSIN, n. *küz'n* [F. *cousin*—from OF. *cosin*; prov. F. *cusrin*—from mid. L. *cosinus*, a corruption of L. *consobrinus*, a cousin-german]: any relation more distant than a brother or sister; the son or daughter of an uncle or aunt; title of address used by a king to his nobles. **COUS'INLY**, a. -ly, having the relation of cousins: **AD.** becoming a cousin. **COUSINS-GERMAN**, the children of brothers or sisters.

COUSIN, *kó-zäng'*, **VICTOR**: 1792, Nov. 23—1867; b. Paris: founder of systematic eclecticism in modern philosophy. He studied with brilliant success at the *Lycée Charlemagne*. In 1812 he was appointed Greek tutor in the *Ecole Normale*, and in 1814, Examiner in Philosophy. In the following year he became assist. prof. to Royer-Collard at the Sorbonne, and threw himself heartily into that reaction against the sensualistic philosophy and literature of the 18th c. then in vogue. Following the path of his senior, he became an exponent of the doctrines of the Scotch metaphysicians, but exhibited far more brilliancy, energy, and warmth of expression than the original authors of these doctrines. In 1817, C. visited Germany, where he was introduced to bolder and more speculative systems of philosophy than any that he had yet known. He studied successively, or at the same time, Plato, Kant, Jacobi, Fichte, and Schelling. A second visit to Germany, 1824-5, also had important consequences. Suspected of carbonarism, he was arrested at Dresden by the police and sent to Berlin, where he was detained six months. He took advantage of his compulsory residence in the capital of Prussia to study the philosophy of Hegel,

which exercised considerable influence on his susceptible intellect. On his return to France, he took a decided stand against the reactionary policy of Charles X.; and in 1827, when the comparatively liberal ministry of Martignac came into office, C., who had for some years been suspended from his professorial functions, was reinstated in his chair. Meanwhile, he had appeared as an author. During 1820-27, he published his editions of Proclus and Descartes, and part of his celebrated translation of Plato, finished 1840, in 13 vols. The year 1828 witnessed the most splendid triumph in the career of C. as a philosophic teacher. It is said that to find an audience as numerous, and as passionately interested in the topics discussed, as gathered round C., it would be necessary to go back to the days of Abelard and other mediæval teachers of philosophy. C. was still young, simple, and pure in his habits; his doctrines were for the most part new to his hearers, bold, and in harmony with the spirit of the time. The finest qualities of the national genius appeared in his lectures, a wonderful lucidity of exposition, an exquisite beauty of style such as no modern or ancient philosopher, except Plato, has equalled; a brilliancy of generalization and criticism that enchanted every one; and a power of co-ordinating the facts of history and philosophy in such a manner as to make each illustrate the other and reveal their most intricate relations. At this period, C. was one of the most influential leaders of opinion among the educated classes in Paris; and consequently, after the revolution of 1830, when his friend Guizot became prime-minister, C. was made a member of the Council of Public Instruction; in 1832, a peer of France; and latter director of the *École Normale*. His efforts for the organization of primary instruction are seen in those valuable reports which he drew up, from personal observation, on the state of public education in Germany and Holland. In 1840, he was elected a member of the *Académie des Sciences Morales et Politiques*, and in the same year became minister of Public Instruction in the cabinet of Thiers. The revolution of 1848 found in C. a friend rather than an enemy. He aided the government of Cavaignac, and published an anti-socialistic brochure, called *Justice et Charité*. After 1849, he disappeared from public life.

It is more easy to state what philosophical doctrines have received exposition at the hands of C. than to determine precisely what are his own. At first a disciple of Royer-Collard and the Scotch school, he was attached to the psychological method of investigation; afterward a keen student of the German school, he expounded the views of Schelling with such copious enthusiasm, that he might legitimately enough have been considered a thorough pantheist. Judging from such a book as *Du Vrai, Du Beau, et du Bien* (1853), he seemed more disposed, latterly, to regard philosophy in its religious and æsthetic relations: see ECLECTICISM.

C.'s chief works (besides those already mentioned) are *Fragments Philosophiques* (1826), *Cours de l'Histoire de la Philosophie* (1827), *Ouvrages inédites d'Abelard* (1836), *Cours d'Histoire de la Philosophie Moderne* (1841), *Cours d'Histoire*

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de la Philosophie Morale au XVIII^e Siècle (1840-41) *Leçons de Philosophie sur Kant* (1842), *Des Pensées de Pascal* (1842), *Études sur les Femmes et la Société du XVII^e Siècle*, etc. (1853). C. also contributed a great variety of papers to the literary and philosophic Reviews of France.

COUS'INS, FIRST: see MARRIAGE.

COUSSINET, n. *kôs'sî-nêt* [F.]: the impost stone on the top of a pier; the ornament in an Ionic column between the abacus and echinus.

COUSTOU, *kôs-tô'*, NICOLAS: 1658-1733; b. Lyons, France: painter and sculptor. He was the son of a wood-carver, studied in Paris with Coysevox, his uncle and pres. of the Acad. of Painting and Sculpture; gained the Colbert prize, spent four years in the French Acad. in Rome, and became chancellor of the Acad. of Painting and Sculpture. His works include a group of the descent from the cross, in the church of Notre Dame, Paris, two colossal statues of the junction of the Seine and the Marne and of the Berger chasseur, in the Tuilleries garden; and a number of statues in Versailles and Marly.

COUTANCES, *kô-tôngss'*: town of France, dept. of La Manche, at the confluence of the Soulle and Bulsard. It is on a conical hill, a few miles from the English Channel, and is a somewhat lugubrious place. Its cathedral, however, is one of the finest specimens of ecclesiastical architecture in the early pointed style in Normandy. One of the towers of the edifice is lighted with a lantern that serves as a beacon for ships navigating the channel. C. has manufactures of druggets, muslins, etc., and a trade in corn. Pop. 8,500.

COUTHON, *kô-tông'*, GEORGES: 1756-1794, July 28; b. Orsay, near Clermont, in Auvergne: fanatic of the French Revolution. At the outbreak of the Revolution, he was engaged as an advocate, and in 1790 was elected pres. of the Tribunal for the district of Clermont. In 1791, he was sent by his fellow-citizens to the National Convention, where he made himself conspicuous by his furious hatred of the court, the priesthood, and the monarchy. In spite of an infirmity which prevented him using his limbs, C. soon gained much influence from the rabid violence of his sentiments. He voted for the death of the king without delay or appeal to the country, and (after a brief relapse into moderatism) became a devoted and bloodthirsty partisan of Robespierre. In July 1793, he was appointed a member of the *Comité de Salut Public*, and with Châteauneuf-Randon and Maignet, was sent against the Lyonnese insurgents. After some opposition, the city was taken, when a multitude of the citizens were put to death. On his return to the Convention, he became quite maniacal, demanding the 'impeachment' of all the kings of the earth, and voting for Pitt being declared 'the enemy of the human race,' and the English nation a 'traitor to humanity.' The fall of Robespierre brought down C. also. Accused by Fréron, he was thrown into prison, delivered by the mob with whom he was popular, recaptured by the soldiers of the Convention, and put to death with St. Just and Robespierre.

COUTRAS—COVENANT.

COUTRAS, *kó-trá'*: town of France, dept. of Gironde, on the left bank of the Dronne, about 26 m. n. e. of Bordeaux. C. has a considerable trade in flour, and the district produces red wine; but the place is known principally on account of the bloody victory gained here (1587) by Henry of Navarre over the forces of the League. In this battle the Duc de Joyeuse, commander of the Leaguers, was slain, as well as many other great noblemen on the same side. Pop. 2,500.

COUTURE, *kó-tür'*, **THOMAS**: 1815, Dec. 21—1879, Mar. 31; b. Seulis, France; painter. He studied under Gros and Delaroche, developed a style of his own, distinguished by unusual richness of color and free handling, and began exhibiting 1840 with *Jeune Venétien après une orgie*. He subsequently exhibited *L'Amour d'or* (1844); *Romains de la decadence* (1847), which gained him a first-class medal and the cross of the legion of honor; *Trouvère*; *Fauconnier*; and the military pieces *Return of Troops from the Crimea*, and *Enrollment of Volunteers*. He published an art essay *Entretiens d'atelier* (1867).

COUVRE-PIED, n. *kóv'ér-pě-ā'* or *-pě-ěd'* [F., a coverlet—from *couvrir*, to cover; *piéd*, a foot]: a cover for the feet when lying down on a couch or sofa. **COUVRETTE**, n. *kóv-rět'*, little covers placed on the backs of chairs or sofas.

COVE, n. *kōv* [Icel. *kofi*, a hut: AS. *cōfa*, a chamber: L. *cavus*, hollow: Sp. *cueva*, a cave: Port. *cova*, a hole, a ditch]: a small inlet or recess in the sea-shore where boats may find shelter; a creek or small bay; a nook: V. to arch over. **Co'ving**, imp. **COVED**, pp. *kōvd*: **ADJ.** arched over: see **ALCOVE**.

COVE, n. *kōv* [OE. *cofe*: Gael. *comh*, a prefix denoting equality or fellowship, and *coe*, an odd old fellow]: in *slang*, a person; a fellow.

COVELLINE, n. *ko-vě'l'lin*, or **COVEL'ITE**, n. *-līt*: mineral found in various parts of the European continent and North and South America. There are two varieties, cantonite and alisonite.

COVENANT, n. *kǔv'ě-nǎnt* [F. *convenant*, a contract: L. *conventum*, an agreement—from L. *con*, *věnio*, I come: comp. Gael. *cumhnant* = *cúvnánt*, a covenant]: a solemn league; mutual consent or agreement: in *law*, a written agreement between parties to do or not to do some act or thing; a stipulation:—it may be in a variety of forms, no particular form being requisite in law, and may refer to all kinds of agreements, and is enforceable at law in a variety of ways; it may even be implied: see **CONTRACT**: **CONSENT**: V. to enter into a formal agreement; to contract. **COV'ENANTING**, imp. **COV'ENANTED**, pp.: **ADJ.** in the old *Indian Civil Service*, denoting the covenant or engagement entered into between an individual and the company on entering their service, as opposed to the *uncovenanted service*—that is, the service not subject to such a formal engagement. **COVENANTER**, n. *kǔv'ě-nǎn-tér*, one who joined in the Solemn League and Covenant in Scotland in the reigns of

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Charles I. and II.: see COVENANTS, THE: CAMERONIANS: REFORMED PRESBYTERIANS. — SYN. of 'covenant, n.': agreement; contract; compact; bargain; stipulation; arrangement.

COVENANT, in Theology: a contract between God and Man; or more accurately in some of the cases adduced, a relation constituted by God between Himself and men. The term is nearly, if not exactly, equivalent to the Hebrew *berith* of the Old Test. and the Greek *diathēkē* of the New. Applied to relations established between God and men, the term C. must be understood with a certain modification of the meaning which it bears when employed concerning the relations of men to one another, when two independent parties enter into a C., which they have equal right to make or to refuse to make: thus, it is sometimes employed as equivalent to *dispensation*, and the Jewish dispensation is called the *Old C.* (or *testament*, by another translation of *diathēkē*), in contradistinction to the Christian, which is called the *New*. God, in his supremacy, is regarded as appointing certain conditions for his creatures, which they cannot but accept, yet their willing consent to these conditions gives to the relation established the nature of a C.; and thus God is commonly said to have made two covenants with man: the *first C.*, or *C. of Works*, with Adam, as the representative of the whole human race, promising life (with perfect happiness), upon condition of perfect obedience, while death was threatened as the penalty of transgression; the *second C.*, or *C. of Grace*, being that on which depend the whole hope and salvation of man, since the first C. was broken, and in which life is freely offered to sinners, and they are simply required to believe in Jesus Christ that they may be saved. This C. God is regarded as having made with Christ, as the representative of his people, and with them in him. The older theologians often speak of the *C. of Redemption* between God and Christ, employing the term *C. of Grace* rather to designate the whole dealings of God with men in giving effect to the C. of Redemption; but the term *C. of Grace* has long been almost universally employed to include all that was comprehended under both terms. The *Abrahamic C.* is the C. of Grace as declared to Abraham, in its particular relation to him and his seed. God is represented in Scripture as sustaining a *C. relation* to his *own people*, to the Jews under the Old C., to believers in Christ under the New; and doctrinal theology consists not a little in tracing out the nature of this relation, and the consequences which flow from it. It is seriously questioned by many devout Christian people whether philosophical subtlety has not been used by a school of theologians in pressing the doctrine of the covenants into lines and to an extent not warranted in Scripture—thus giving to the system of Divine grace a character formal and mechanical rather than vital and spiritual. Whatever questions of this sort may arise concerning the historic reality of the C. of works with Adam for man, or the C. of grace between the Father and the Son, it may be said that at least the Abrahamic C. is clearly revealed in Scripture, and is traceable through

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all subsequent history, and—as transfigured in the Gospel through Christ—is operative even to the present day, as the constitutive principle of the whole historic church in the world. As the people of God collectively sustain a C. relation to him, so do believers individually; and it has not been an uncommon thing for pious persons to endeavor to reduce to writing their sense of this ‘*C. obligation*,’ under the notion of a *personal covenanting* with God; and of binding themselves by a stronger obligation to what they believed to be good and their duty. It has also been common for men, from the earliest ages, to enter into covenants with one another with more or less of religious solemnity; and this has in particular been done among those who have suffered persecution, or have been engaged in contests concerning matters of religion, for which the authority of certain passages of the Old Testament is strongly pleaded. Instances occur in the history of the Waldenses, and of some of the Reformed churches, particularly in the history of the Reformation in Scotland. But the most memorable covenants in Scottish ecclesiastical history belong to a period subsequent to the Reformation.

COVENANTS, THE: in Scottish history and tradition: chiefly two—the NATIONAL COVENANT, and the SOLEMN LEAGUE AND COVENANT. It is necessary to discriminate between these.

NATIONAL COVENANT.—This was a bond of union or agreement, drawn up at Edinburgh, 1638, by the leading Presb. ministers, and subscribed by vast numbers of persons of all ranks of life. It embodied the Confession of Faith of 1580 and 1581, subscribed by James VI. in his youth, and again recognized in 1590 and ’96; and was binding on all who signed it to spare nothing which might save their religion. The proximate cause of this extraordinary manifestation of feeling was the attempt of Charles I. to enforce Episcopacy and the use of the Service-book in Scotland. The subscribing of the National Covenant began 1638, Feb. 28, in the Greyfriars’ church and churchyard, at Edinburgh. Numerous copies also were circulated through the country for signature, which accounts for many copies being still extant. ‘In the library of the Faculty of Advocates at Edinburgh are preserved five parchment copies, with the original signatures of Rother, Montrose, Loudon, and many others of the nobility, gentry, commissioners of counties and burghs, and ministers, though only one of these five copies is apparently connected with the first signing, and the other four, dated 1639, were subscribed after the ratification by the General Assembly.’ The General Assembly, which met at Glasgow, 1638, Nov. 21, ratified the National Covenant and the Confession of Faith which it embraced, and deposed the whole of the hierarchy which had been established by Charles I. The National Covenant was subsequently ratified by the 5th act of the second parliament of Charles I., at Edinburgh, 1640, June 11, and subscribed by Charles II. at Spey, 1650, June 23, and Scoon, 1651, Jan. 1. The document is in the volume which comprehends the *Westminster Confession of Faith*, in use by the Church

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of Scotland. (For further information, see ASSEMBLY OF DIVINES: CREEDS AND CONFESSIONS: SCOTLAND: SCOTLAND, CHURCH OF: CHARLES I.: and other titles.) Those who subscribe the National Covenant promise to 'continue in obedience of the doctrine and discipline of this kirk.' They also give assent to various acts of parliament in the reign of James VI., which, besides repudiating the jurisdiction of the pope, and all the ceremonial observances and errors of the Roman Church, ordain 'all sayers, wilful hearers, and concealers of the mass, the maintainers and resettors of the priests, Jesuits, trafficking Papists, to be punished without any exception or restriction.'

SOLEMN LEAGUE AND COVENANT.—This was a document of date four to five years later than the National Covenant, since the signing of which Charles I. had broken with the English parliament, set up his standard at Nottingham (1642, Aug.), and from his various successes was thought to be gathering strength finally to reinstate Episcopacy in Scotland. With some alarm on this ground, the Scotch willingly received overtures from commissioners deputed from the English parliament. Some hopes were held out to the Scottish nation that in the event of success against the king, the Presbyterian model should supersede the Episcopalian both in England and Ireland. Approving of a measure of this kind, the Scottish Estates entered into what was called a Solemn League and Covenant with the English parliament. One of the provisions of the bond of agreement was that the Scotch should send an army into England against the king, which they did, 1644, January.

The Solemn League and Covenant was subscribed by many of all ranks in Scotland and England, including the assembly of divines at Westminster, was ratified by the general assembly at Edinburgh, 1643, Aug. 17, and the Scottish parliament, 1644, July 15, and subscribed by Charles II. at Spey, 1650, and Scoon, 1651. Like the National Covenant, it has till the present day, a place in the volume which comprehends the *Westminster Confession of Faith* of the Church of Scotland. While the National Covenant refers to the observance of the Presb. polity within Scotland alone, the Solemn League and Covenant is much more comprehensive. Those who subscribe it, setting out with a profession of attachment to the Church of Scotland, are to endeavor to bring about a uniformity in religion and church discipline in the three kingdoms; and further—'That we shall in like manner, without respect of persons, endeavor the extirpation of popery, prelacy (that is, church government by archbishops, bishops, their chancellors, and commissaries, deans, deans and chapters, archdeacons, and all other ecclesiastical officers depending on that hierarchy), superstition, heresy, schism, profaneness, and whatsoever shall be found to be contrary to sound doctrine and the power of godliness, lest we partake in other men's sins, and thereby be in danger to receive of their plagues; and that the Lord may be one, and his name one, in the three kingdoms.'

Such were the famous covenants, at one time enforced

COVENT GARDEN—COVENTRY.

by civil penalties, and for which their adherents, under the name of Covenanters, fought and suffered in Scotland, between the restoration and revolution, maintaining to the last that both covenants, notwithstanding certain rescissory acts of parliament, were still binding on the whole nation. At the revolution, the two covenants were set aside, and cannot be said to have now any practical effect in any part of the United Kingdom. As above stated, they have a place in the volume which comprehends the *Westminster Confession of Faith*, but for what reason, other than one of historical interest, it is difficult to say; for the Church of Scotland does not make adherence to them obligatory on either clerical or lay members. Certain Scottish and Irish dissenters, however, still profess attachment to the covenants, and on particular occasions renew their subscription of them: see CAMERONIANS. The obligations undertaken by the sovereign, and the modern acts of parliament abolishing religious tests on taking civil office, and admitting Rom. Catholics, Nonconformists, and Jews to parliament, not to speak of public opinion, are totally at variance with the covenants. It is customary in popular lectures on the covenanters to overlook the fact, in compassion for their sufferings, that they contended for what is now quite adverse to the principles of religious toleration. Yet, so far as the manful struggle in which they were concerned helped to accelerate the revolution, the history of the covenanters must ever be associated with that of civil and religious liberty.

COVENT GARDEN, *kūv'ent gār'den* (properly *Convent Garden*, originally the garden of Westminster Abbey): a square in London noted for its great market of fruit, vegetables, and flowers. In the 17th c., C. G. was a very fashionable quarter of the town—the residence of many eminent persons. The scene of one of Dryden's plays is laid here, and frequent allusions are made to the place in plays of Charles II.'s time. The market, now so famous, appears to have originated about 1656 in a few wooden sheds and stalls. C. G. is for a stranger one of the sights of London, and is seen to greatest advantage about three o'clock on a summer morning; Tuesday, Thursday, and Saturday being the principal days.

COVENTRY, *kūv'en-trī*: town of C. township, Kent co. R. I., on an arm of the Pawtuxet river, and the New York and New England railroad, 18 m. s.w. of Providence. Its industries embrace the manufacture of calico and cotton prints, muslin *de laines*, and a variety of cotton and other machinery. Pop. (1870) 4,349; (1880) 4,580; (1900) 5,279.

COVENTRY (convent town): city, parliamentary and municipal borough, and manufacturing town in the n. of Warwickshire, on the Sherbourne, an affluent of the Avon, 18½ m. e.s.e. of Birmingham. Pop. munic. bor. (1871) 37,670; (1901) 68,877. It stands on a gentle eminence in a valley, with a ridge of hill on the s., and contains many old houses, with timbered fronts, projecting into narrow streets, and belonging to the 15th and 16th c. The mod-

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ern part of C., however, is well, thought not regularly, built. The chief buildings are the churches, with imposing spires. St. Michael's church, built 1313-95, is said to be the largest parish church in England, and is one of the noblest of the lighter Gothic structures. St. Mary's Hall, built 1450, for the Guild, is one of the finest specimens of ornamental work in England, with grotesque carved oak roof, ancient tapestry, and great painted window. In the market-place formerly stood a rich hexagonal Gothic cross, 57 ft. high, erected in the 16th c., in three stories, with exquisitely finished pillars, pinnacles, and niches, with statues of English kings and saints. Before the year 1760, the cross had fallen to decay, and in 1771, the remains of it were taken down and removed. The ancient walls, three miles in circuit round C., were demolished by Charles II. C. returns two members to parliament. The chief manufactures are ribbons and watches. There are large silkdying works. C. is nearly in the centre, between the four great English ports, London, Bristol, Liverpool, and Hull, and has extensive canal communication with other parts of the country. It is a very ancient place. In 1044, Earl Leofric and his wife, Lady Godiva, founded here a magnificent Benedictine monastery. In memory of Godiva (q. v.), curious and splendid processions were formerly held in C. In the 15th c., religious mysteries or plays were often acted here by the Grey Friars before kings. Henry VIII. demolished the beautiful cathedral of C. Here occurred the famous meeting for the intended trial by battle between the Dukes of Norfolk and Hereford, immortalized in Shakspeare's *Richard II.* Two memorable parliaments were also held in the monastery of C. in the 15th c. The one contained no lawyers, while the other passed attainders against the Duke of York, etc. In the 15th, 16th, and 17th c., C. was famous for woollens, broadcloths, caps, and blue thread bonnets. The Lammass land lying around C., and comprising about 1,100 acres, was not long ago divided between the proprietors and the freemen, numbering about 4,000, in the proportion of about two-thirds to the former, and one-third to the latter. C. was visited by the plague six times between 1350 and 1625. The phrase, 'to send to Coventry,' meaning to shut out from social intercourse, took its rise probably from the derivation of the name C., and meant 'to send to a convent,' i. e., to shut out from society; though it is traced by some to the ancient dislike of the people of C. to soldiers and the refusal social intercourse to troops sent thither.

COVENTRY, *kŭv'ën-tre*, Sir JOHN: English member of parliament, who, 1670, Oct., rose and asked a question relative to a measure before the House, which was taken as an unwarrantable reflection on the king's amours. Charles was furious, and sent some of his guards to watch in the streets where C. lived, and leave a mark upon him. C. was attacked one night, and had his nose cut to the bone. Parliament took notice of this atrocious outrage, and passed a bill known by the name of the COVENTRY ACT, making cutting and maiming a capital offense; but

they had not courage sufficient to bring the king's bravoës to trial.

COVER, n. *kǔv'ér* [F. *couvrir*, to conceal—from mid. L. *cōpĕrĭrĕ*—from L. *con*, *opĕrĭrĕ*, to cover: It. *coprĭre*, to cover]: anything laid or spread over something else; anything that veils or conceals; disguise; shelter; protection: V. to overspread the surface or top of anything by another thing; to veil or conceal from view by some intervening object; to copulate; to clothe; to shelter; to wrap; to protect; to equal or be equivalent to. COVERING, imp.: N. anything spread or laid over another; a garment; bed-clothes. COVERED, pp. *-ĕrd*. COVERCLE, n. *-ĕr-kl* [F. *couvercle*]: a small cover; a lid. COVERLET, n. *-ĕr-lĕt* [F. *couvre-lit*, a bed-cover: OF. *covre-lit*]: the upper light covering of a bed, a cot, or a crib. COVERT, a. *-ĕrt* [OF. *covert*; F. *couvert*, a cover, covered]: concealed; private; secret; disguised; insidious; under protection: N. a place which covers or shelters; a defense; a shady place; a thicket; a hiding-place. COVERTLY, ad. *-lĭ*, secretly; insidiously. COVERTNESS, n. COVERTURE, n. *-ĕr-tūr* [F. *couverture*, a cover]: shelter; defense; in *law*, the state or condition of a married woman, as being under the power and protection of her husband. TO BREAK COVER, in *hunting*, to escape from a covert or lair.—SYN. of 'cover, v.': to conceal; hide; shelter; screen; shield; overspread; secrete.

COVERDALE, *kǔv'ér-dāl*, MILES: 1487—abt. 1568; b. Yorkshire: eminent English divine. He was educated at Cambridge by the Augustin friars, and, becoming an Augustin monk, was ordained at Norwich. He appears, however, to have soon changed his religious opinions, and to have devoted himself earnestly to the work of the Reformation. Being abroad in 1532 he assisted Tyndale with his translation of the Scriptures, and three years afterward appeared his own translation of the Bible, with a dedication himself to Henry VIII. This was the first English Bible sanctioned by royal authority, as, indeed, it was the first complete translation of the Bible printed in the English language. The Psalms of this translation are those still used by in the Book of Common Prayer. In 1538, C., with the consent of King Henry VIII., and with the permission of Francis I., went to Paris to superintend another English edition of the Scriptures, his reason for going to Paris being that paper and workmanship were there cheaper and better than in England. The inquisition, however, notwithstanding the royal license of Francis, interfered, seized the whole impression, consisting of 2500 copies, and condemned them to the flames. But through the cupidity of one of their executive officers, who sold a considerable number of the heretical books to a harberdasher as waste paper, some copies were saved and brought to London with the presses, types, etc., which had been employed in printing them. Several of the workmen also came over to London; and Gratfon and Whitchurch, the noted printers of that day, were thus enabled to bring out in 1539, under C.'s superintendence, the *Great Bible*, commonly called

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Cranmer's Bible, on account of that prelate having written a preface to it. In 1551, C was appointed to the see of Exeter, the duties on which high ecclesiastical office he discharged with great zeal until the accession of Mary, 1553, when he was ejected, and thrown into prison, from which he was released after two years' confinement, on the earnest intercession of the king of Denmark, whose interest was evoked by his chaplain, C.'s brother-in-law, and on the condition that he should leave the country. C. went to Denmark, and subsequently to Geneva, where he assisted in producing the *Geneva Translation* of the Scriptures (1557-60). On the accession of Elizabeth, he returned to England; but certain notions concerning ecclesiastical ceremonies which he had imbibed at Geneva operated against his preferment in the church, and it was not until 1564 that he was collated to the rectory of St. Magnus, London. Owing to age and infirmities, he resigned this living in 1566, and died about two years afterwards. C. was the author of several tracts designed to promote the Reformation, and made various translations from the works of the continental reformers. The tri-centenary of the issue of his Bible was celebrated throughout the English Church, 1835, Oct. 4, and medals were struck in honor of the occasion.

COVERT WAY, *kūv'ért-wā*, or COVERED WAY, in Fortification: road or broad path outside the ditch of a fortified place, between the counterscarp and the glacis. It is about



Vertical Section of Defense-works.

30 ft. wide, and is sunk so far below the crest of the glacis, that soldiers standing upon it cannot be seen by the besiegers; hence the name of covert or hidden way. Sentinels, placed in the C. W., prevent all access of the enemy's spies to examine the ditch; and when musketeers mount on the banquette or raised platform on the side next the glacis, they can pour out a grazing fire on the enemy over the crest. The C. W. is broad enough to allow bodies of troops to form on it, either to act defensively or to make sorties; and to increase this accommodation, enlarged portions, called *places of arms*, are made at certain spots. In the annexed cut, representing a vertical section of the whole range of defense-works, from the *rampart* next the city to the *glacis*, the relation between the C. W. and the other works is clearly shown. The *banquette* of the C. W. is here shown to be about 3 ft. high by 4 wide, and reached by a sloping ascent of 4 ft.: see CURTAIN.

COVET, v. *kūv'ēt* [OF. *covoiter*, to covet—from Prov. *cubitos*—from L. *cupītus*, passionately desirous, covetous: It. *cubitare* for L. *cupītārē*, to covet]: to desire or wish for

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eagerly; to desire earnestly to obtain; to desire any object which cannot be obtained or possessed lawfully; to have an earnest desire for. COV'ETING, imp.: N. earnest inordinate desire. COV'ETINGLY, ad. -lǐ. COV'ETED, pp. COV'ETER, n. one who. COV'ETABLE, a. -tǎ-bl, that may be coveted. COV'ETOUS, a. -ě-tǔs [OF. *covovitus*]: eager to obtain; greedily desirous after; avaricious. COV'ETOUSLY, ad. -lǐ, in a covetous manner; avariciously. COV'ETOUSNESS, n. the quality of being covetous; an inordinate eagerness of gain; eagerness.—SYN. of 'covetous': avaricious; sordid; miserly; niggardly; parsimonious; penurious;—of 'covetousness': avarice; cupidity, etc.

COVETTA, n. *kō vēt'ta*: a plane used for molding framework, called also quarter-round.

COVEY, n. *kǔv'ǐ* [OF. *covee*; F. *courée*, a brood—from OF. *cover*; F. *couver*, to hatch—from L. *cubārē*, to lie down]: a brood or hatch of birds; a small flock of birds; a flock of partridges.

COVILHA, *kō-vēl-yâng'*: town of Beira, Portugal, having manufactures of brown cloth. Pop. (1878) 10,986.

COVIN, n. *kǔv'ín* [OF. *covine*, and *covine*, intrigue—from *convenir*, to agree—from L. *convenire*, to meet together, to agree]: deceitful agreement between two or more to the hurt of another. COV'INOUS, a. -ǐ-nǔs, deceitful; fraudulent. COVIN- or COVINE-TREE, in *Scot.*, a tree planted before an old castle, where the lord received his guests, and on which criminals were executed; a trysting-tree.

COVING, n. *kō'vǐng* [AS. *kofa*, a cave, a room: L. *cavus*, a hollow, a cavity (see COVE 1)]: the projection of the upper parts of a building beyond the ground-plan; the vertical sides of a fireplace which incline backward and inward for reflecting the heat.

COVINGTON, *kǔv'ǐng-ton*: city, cap. of Kenton Co., Ky., on the Ohio river, and the Louisville Cincinnati and Lexington, and the Ky. Central railroads, 99 m. n. of Lexington. It is opposite Cincinnati, with which it is connected by a suspension bridge over the Ohio river 2,252 ft. long, completed 1867 at a cost of nearly \$2,000,000. It is connected with Newport, Ky. by a similar bridge over the Licking river, built 1854. C. is built on a plain, covers over 1,350 acres, and, with its streets running from the river, appears like an extension of Cincinnati, many of whose business men reside in this place. It is divided into 9 wards and governed by a mayor and common council of 18 members; is supplied with water by the Holly system, which works were erected, 1871, at a cost of \$430,000; and has 4 national banks with an aggregate capital of nearly; \$2,000,000, a public library, a Rom. Cath. hospital with foundling asylum attached, and a German orphan asylum a priory of the Benedictine order and a convent of Benedictine nuns; combined court-house and city hall; 3 rolling mills, 9 tobacco factories, 30 cigar factories, 5 breweries, 4 distilleries, several beef- and pork-packing houses,

COW--COWAGE.

glass-works, silk manufactories, and 3 weekly newspapers. In 1900, it had a total of 408 manufactories, with a capital of \$4,729,786, employing 3,898 persons, paying in wages \$1,539,089, and yielding a product of \$6,610,082. C. has a high school, 12 grammar and 31 primary schools of a public character, and 10 Rom. Cath. academies and schools. The churches number 28, of which 10 are Rom. Cath., 6 Meth. Epis., 3 Bapt., 2 Presb., 2 Evang. Ref., and one each Disciples, Prot. Episc., Lutheran, and Welsh: the Evang. Ref., Lutheran, one Meth. Epis., and 4 Rom. Cath. churches are for Germans; and one Bapt. and one Meth. Epis. are for colored people. C. is also the seat of a Rom. Cath. bishop. It was laid out 1815; incorporated as a city 1834. Pop. (1860) 16,471; (1880) 29,720; (1900) 42,938.

COW, n. *kōw*, Cows, n. plu. *kōwz*, KINE, old plu. *kīn* [AS. *cu*, a cow; *cy*, cows: Dut. *koe*; Icel. *kyr*; Dan. *ko*; Ir. and Gael. *bó*; Ger. *kuh*, cow: L. *bos*; Gr. *bous*; Sans. *gao*, a bull, a cow]: the female of the bull, a well-known animal yielding milk for domestic uses. **COW-BIRD**, n.: see **CUCKOO**. **COW-BOYS**, n. plu.: a name given to a band of marauders who during the American War of Independence infested the neutral ground between the two sides, and plundered the Revolutionists; also, name now applied to the men who watch and drive the great herds of cattle in the vast western plains in the United States. **COW-CATCH'ER**, a strong frame in front of a locomotive-engine, used in America to throw off large obstructions on the rails. **COW-POX**, small blisters that appear on the teats of a cow, the vaccine matter for inoculation being obtained from these. **COW-HIDE**, leather made from the skin of a cow; a rough riding-whip: V. to whip roughly. **COW'FEEDER**, one whose business it is to feed cows and deal in their milk. **COW'HERD**, one who tends cows in the field. **COW-HORN**, n. the horn of a cow; a dentist's instrument for extracting molars. **COW-LEECH**, n. *kōw'lēch* [*cow*, and AS. *læce*, a physician, a leech]: a cattle-doctor. **COW-LICK**, a tuft of hair on the human head, so named from its being turned back as if licked by a cow. **COW-PAT**, cow-dung. **COW-WHEAT**, the common name for the personated genus *Melampyrum*.

COW, v. *kōw* [Sw. *kufva*; Dan. *kue*; Icel. *kuga*, to subdue, to bring under]: to depress with fear; to keep under; to dispirit. **COW'ING**, imp. **COWED**, pp. *kōwd*.

COW: see **Ox**: **DAIRY**.

COWAGE, or **COWHAGE**, *kow'ij*, or **COW'ITCH**: short, slender, brittle hairs, which grow on the outside of the pods of plants of the genus *Mucuna*, natives of tropical America and Asia. This genus belongs to the nat. ord. *Leguminosæ*, suborder *Papilionaceæ*, and has a knotted, two-valved pod, divided by transverse partitions. The species are twining plants, shrubby or herbaceous, with leaves of three leaflets. That which yields most of the C. brought to Europe is *M. pruriens*, native of the W. Indies, with racemes of fine purple flowers, which have a disagreeable alliaceous smell. and pods about four inches long.

COWARD--COWER.

M. pruriæ of the E. Indies, and *M. urens*, the Ox-eye Bean of the W. Indies, yield C. of similar quality. The hairs readily stick in the skin, and cause intolerable itching. C. is used in medicine, acting mechanically in killing and expelling worms, particularly the species of *ascaris* (q.v.). That it does not act on the inner surface of the intestinal canal, is supposed to be owing to the mucous secretion. It is generally administered in syrup, treacle, or honey.—Before the pods of C. plants are ripe, they are used as a vegetable like kidney-beans; and are very palatable.

COWARD, n. *kōw'erd* [OF. *coward*, a hare, an animal proverbially timid, a coward—so called from its short tail: L. *cauda*, the tail—also applied to one who holds back: Sp. *cobarde*, a coward]: one who wants courage to meet danger of any kind; a timid person; a poltroon. Cow'ARD, a., also Cow'ARDLY, a. -*lī*, destitute of courage; timid; base; fearful; dastardly. Cow'ARDLY, ad. -*lī*, in the manner of a coward; timorously. Cow'ARDLINESS, n., also Cow'ARDICE, n. -*ēr-dis*, want of courage to face danger; undue fear or timidity. Cow'ARDSHIP, n. the quality or character of a coward.—SYN. of 'cowardly, a.': timorous; dastardly, pusillanimous; craven; mean; faint or chicken-hearted.

COW'BANE: see HEMLOCK.

COW'BERRY: see WHORTLEBERRY.

COW-BIRD, or Cow-BUNTING: see COW-PEN BIRD.

COWBOYS, in the American revolution: a band of American Tories who infested the neutral ground of Westchester co., N. Y., robbed the Whigs and loyalists, and made a specialty of stealing cattle. A similar band of marauders on the British side received the name of 'skinners'. The word C. is now used to designate the men who have charge of the cattle on the vast ranges in Tex., Col., Ariz., New Mex., Kan., Montana, Idaho, and elsewhere in the w. and s.w. of the United States. They are well mounted, wear a fanciful costume consisting of an enormous sombrero, or Mexican hat of felt, buckskin breeches and jackets, and high top-boots, delight in gaudy waist-sashes and neck-cloths, use Mexican saddles with high stout pommels to which their horse-hair lassoes are attached, carry huge revolvers, and are perfectly at ease on their wiry, bucking broncos, a small mustang of Spanish origin. They are bold and adventurous, and from their necessarily wild and rough mode of life are often spoken of, as a class, with disfavor; but, while doubtless there are among them varieties of character, many of them are as honest and faithful as they are active and strong.

COWBRIDGE, *kōw'brīj*: municipal and parliamentary borough in the south of Glamorganshire, Wales, on the Ddaw, 12 m. w. of Cardiff. It consists chiefly of one long and wide street. It anciently had walls with three gates, built in the end of the 11th c.: one of the gates, a Gothic structure, still remains. With Cardiff and Llantrissant, it returns one member to parliament. Pop. abt. 1300.

COWER, v. *kōw'ēr* [W. *cowrian*, to squat: Icel. *kura*, to

roost, to doze: Dan. *kure*, to lie quiet: Gael. *cunn*, a corner. Fin. *kaarz*, a curve]: to sink by bending the knees; to shrink or crouch through fear; in *OE.*, to cherish by care; to shelter. COW'ERING, imp. COWERED, pp. *kōw'ērd*. Note.—According to Dr. Charles Mackay, *cow*, *coward*, and *cower*, are all derived from Gael. *cū*, a dog—whence *Cow*, to treat like a dog. COWER, to slink or crouch, as a dog in fear. COWARD—from Gael. *cu-ard*, a high or chief dog, an utter dog—from *ard*, eminent, high.

COWES, *kowz*, WEST: seaport and watering-place in the n. corner of the Isle of Wight, on the w. side of the mouth of the estuary of the Medina (here a third of a mile broad). It stands on a hill-slope, and has a striking aspect from the sea. There are many elegant villas in the vicinity. C. has much trade, being the port of the Isle of Wight. It has daily steam communication with Southampton, from which it is $10\frac{1}{2}$ m. s.s.e.; and with Portsmouth, from which it is 11 m. to the w.s.w. At the angle formed by the Medina and the sea, is a small battery built by Henry VIII. C. is the head-quarters of the Royal Yacht Squadron and Club, who hold their annual regatta here. In 1880, 15,211 vessels, of 1,093,673 tonnage entered the port. Pop. (1871) 5730; (1881) 6487.

EAST COWES is on the e. side of the mouth of the Medina, 2 m. n.w. of Osborne House, the marine residence of Queen Victoria.—Pop. (1871) 2058; (1881) 2615.

COWL, n. *kōwl* [OF. *cuoule*; AS. *cugle*; W. *cwfl*, a monk's hood: Icel. *kufi*, a cowl: L. *cucul'lus*, a hood (see COWL 2)]: a monk's hood or habit—a hood for the head, generally attached to a loose cloak, common in England in the middle ages, now almost confined in use to members of some religious order; a cover for a chimney that turns with the wind. COWLED, a. *kōwld*, hooded; covered with a cowl.

COWL, n. *kōwl* [OF. *cuvel* and *cuveau*, a little tub—dim. of F. *cuve*, an open tub]: in *OE.*, any kind of cup or vessel; a vessel carried on a pole, as *cowl-staff*.

COWLEY, *kow'li*, formerly pron. *kō'li*, ABRAHAM: 1618–1667, July; b. London: son of a grocer. He was educated at Westminster School and Trinity College, Cambridge. According to his own statement, he was made a poet by the perusal of Spenser, whose works were wont to lie in his mother's parlor. A volume of poems, entitled *Poetic Blossoms*, was published by him at the age of 15, one of the poems written when he was 10 years old. At Cambridge, he obtained distinction through the elegance of his translations; and while there, he composed the greater part of the *Davidis*, an epic in four books—a work which he never completed. He was attached to the court party, and, in consequence, was ejected from his college, 1643, after he had taken his degree of M.A. In 1646, he followed the queen to Paris, in which city he remained ten years; and on his return to England, being under suspicion, he was seized and bound in heavy securities for his future behavior. In the same year, he published an edition of his poems, with a preface, in which certain passages appeared,

COWLEY—COWP.

supposed to have a political bearing, which were suppressed in subsequent editions. After the Restoration, he expected to obtain the mastership of the Savoy, but was disappointed. He subsequently obtained a lease of the queen's land at Chetsey, in Surrey, whither he retired, 1665. He died in his 49th year, and was buried in Westminster Abbey, near Chaucer and Spenser. In 1675, a monument was erected to his memory by the Duke of Buckingham.

Although almost forgotten now, the time was when C.'s poetry was considered equal to Shakspeare's or Spenser's. It certainly has merits of ingenuity and verbal brilliancy. He is often splendid, but it is the splendor of the rocket rather than of the star. His prose is more natural than his verse, and some of its passages reach a stately eloquence, reminding the reader of the magnificent prose of Milton.

COWLEY, HENRY RICHARD WELLESLEY, first Earl: English diplomatist of liberal opinions: 1804-84; son of the first Baron Cowley, better known as Sir Henry Wellesley. He early applied himself to diplomatic pursuits. An attaché at Vienna, 1824, he was afterward successively promoted to be sec. to the legation at Stuttgart, and to the embassy at Constantinople. Having acted as minister-plenipotentiary to Switzerland, and afterward to Frankfurt, he was (1851) appointed minister to the Germanic Confederation, and in the following year he succeeded the Marquis of Normandy as ambassador at Paris. For this position he had eminent qualifications, and held the appointment whether his party was in or out of office till 1867, when he resigned. With the Earl of Clarendon he represented Great Britain at the Paris Congress, 1856; and it was greatly owing to his tact and temper that ill-feeling between the two countries did not result in more serious disagreement. He was created Viscount Dangan and Earl Cowley, 1857, and made a K. G., 1865.

CO-WORKER, *n.* *kō-wérk'ér* [*con*, and *worker*]: one who works with another.

COWP, *v.* *kōwp* [Gael. *cop*, to capsize]: in *Scot.*, to tilt over; to upset. COWP'ING, *imp.* COWPED, *pp.* *kōwpt*.



Cow Parsnip Flower.

COW PARSNIP (*Heracleum*): genus of plants of the nat. ord. *Umbelliferae*, having petals bent in at the middle, and flat compressed fruit. One species, the Common C. P. or HOG-WEED, called *Kiesh* in Scotland, a common and rank weed, with coarsely hairy leaves, and stem about 3-5 ft. high, is gathered in some parts of England for fattening hogs, and is said to afford wholesome food for cattle. Some Siberian species are much larger, and have been recommended for cultivation on account of the great quantity of herbage which they yield very early in the season, particularly *H. panaces*, which sometimes attains a height of 10 ft., and the root leaves are 3-5 ft. long.



Cow Parsnip Fruit.

COW-PEN BIRD (*Molothrus pecoris*), also called Cow Bird, Cow Troopial, Cow Blackbird, Cow Bunting, &c.: bird nearly allied to the Baltimore Birds and Troopials, having a short, conical beak, and remarkable for its habit of depositing its eggs, like the cuckoo, in the nests of other birds. It is a native of N. America, common in some of the southern states in winter, and migrating northward in spring. Great flocks are sometimes seen together. The C. B. is about seven inches in entire length, of glossy brownish-black plumage. It derives its name from its frequenting cow-pens, to feed on the insects contained in, or attracted by the dung. It selects for the reception of its eggs the nests of birds smaller than itself, and by an interesting provision of nature, its egg, which is not much larger than theirs, is hatched sooner, and theirs appear to be generally removed as addled eggs.

COW'PENS, BATTLE OF: 1781, Jan. 17, in a cattle pasture in Spartanburg co., S. C., abt. 30 m. w. of King's Mountain; between the British, under Col. Tarleton, and the Americans under Gen. Morgan and Col. Pickens. Tarleton had been detached by Cornwallis from his main body to cut off Morgan's division lying between the Broad and Catawba rivers. Morgan at first retreated on hearing of Tarleton's approach, but suddenly stopping at the Cowpens, turned upon his pursuers, poured a deadly volley into their astonished ranks, and then, by a brilliant bayonet charge, routed them and captured their colors and cannons. Tarleton barely escaped capture. The British lost 300 in killed and wounded, and 500 prisoners, 800 muskets, 2 cannons, and 2 standards; and the Americans, 72 in killed and wounded.

COWPER, *kow'për* or *kó'për*, WILLIAM: English poet: 1731, Nov. 26—1800, Apr. 27; b. in the parsonage house of Great Berkhamstead. His father, chaplain to George II., married Ann, daughter of Roger Donne, of Ludham Hall, Norfolk. This lady expired in childbirth in 1737, leaving two sons, William, the poet, and John. This event made a deep impression on C.'s mind; and the lines addressed to,

his mother's portrait have probably drawn more tears than any other poem in the English language.

C. was a delicate and sensitive child, and boyhood brought with it only deeper melancholy and depression. At the age of six he was placed at a considerable school, kept by a Dr. Pitman, in Market Street, Hertfordshire. The period he spent here was very miserable, and laid the foundation of that settled gloom which oppressed him till death. It is to the remembrance of these wretched days that we are indebted for the fierce invective that burns in the somewhat one-sided *Tirocinium, or a Review of Schools*. C. completed his studies at Westminster School, and shortly afterward was articled to a Mr. Chapman, attorney in London.

After completing his three years' articles with Mr. Chapman, C. went, 1752, to reside in the Middle Temple. In 1754 he was called to the bar, but never practiced. His father died, 1756, and left him a small patrimony. In 1759 he removed to the Inner Temple; and though at this period he expected to secure some legal appointment through the influence of his family, he hated law with a perfect hatred, and seldom opened a book that bore on his profession. Yet he was industrious enough; he scribbled poetry, read Homer, and, in conjunction with his brother, translated some of the books of the *Henriade*. Soon after his settlement in the Inner Temple, he was appointed a Commissioner of Bankrupts; but there is no reason to believe that he ever entered on the duties of his office. An influential relative now offered him the office of Clerk of the Journals of the House of Lords, which was accepted; but he, having to undergo an examination at the bar of the House, was seized with nervousness, and could not appear. At this period his misery was so great that he meditated suicide, but fortunately failed to carry out his intentions for want of courage. In 1763, Dec., he was removed to the house of Dr. Cotton at St. Albans—a prey to the deepest remorse.

C.'s pecuniary means had suffered considerably by the loss of his appointments, but his friends contrived to make up an income sufficient for his wants. After his removal from St. Albans, he went to reside in the town of Huntingdon. Here he formed acquaintance with Mrs. Unwin—the Mary of his poems—an acquaintance which ripened into the deepest friendship, and lasted till death. He went to reside with the Unwins, and enjoyed much tranquil happiness under that kindly and religious roof. When on a visit, 1773, Jan., to the Rev. Mr. Newton, a friend of the Unwins, and a man of sincere piety, but, from the peculiar cast of his religious views, perhaps not the best physician 'to minister to a mind diseased,' C.'s malady returned. Mrs. Unwin carefully tended him through the crisis of his delirium, and through his long and slow recovery. When convalescent, he betook himself to writing hymns with Mr. Newton, and to domesticating hares, with the particulars and little incidents of which amusement the world is pleasantly familiar. Mrs. Unwin also suggested, as a subject suited to his genius, *The Progress of Error*. C. set to work, 1780,

COW PLANT—COWRY.

Dec., and by the following March had completed *Truth, Table-Talk, The Progress of Error, and Expostulation*. The vol. was published 1782.

In 1781, C. made the acquaintance of Lady Austen, who suggested to him *The Task*, urged him to translate *Homer*, and—what the world is perhaps still more grateful for—she related to him the history of John Gilpin. The story so seized C.'s fancy, that in the course of a single night he produced the poem which has tickled the midriffs of three generations. *The Task* was begun in the winter of 1783, and published 1785. Its success was great, and C. began to be considered the greatest poet of his day. In 1784 he began the translation of *Homer*, which appeared, 1791, and was received with great applause. He had labored hard, and had now to pay the penalty. The pen was the only weapon with which he could keep his constitutional malady at bay; but now, when seated at his desk, his genius would not answer the call. He began to hear again the voices and the whisperings which had afflicted him in earlier days. Mrs. Unwin's faculties also became affected, and the two friends were groping in the same twilight, deepening for both into the darkness of death. They left Olney, and were received into the house of Mr. Johnson, in Tuddenhams, in Norfolk. Here Mrs. Unwin died 1796, Dec. 17. C. now fell into a state of utter dejection; in 1799 he was attacked by dropsy, and died in the following year, 1800.

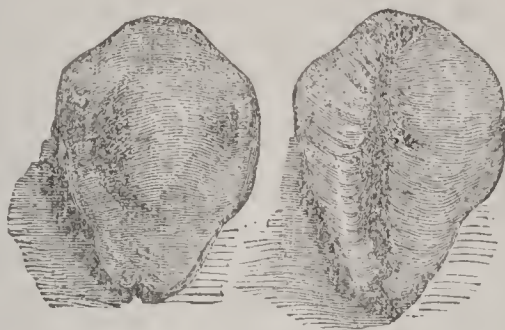
C. was a great innovator in English literature; he destroyed the sentimentalists led by Hayley, and the image-hunters headed by Darwin. His poetry is eminently healthful, natural, and unaffected. C. and Robert Burns we have to thank for bringing back nature to English poetry. Besides being a poet, C. was perhaps the most delightful letter-writer in the English language. Nothing can surpass the charm of his epistles—full of fun, gentle sarcasm, anecdote, acute remark, and a tender shadow of melancholy thrown over and toning down the whole. The best edition of C.'s works (accompanied by an admirable biography) is that of Southey, 15 vols., 12mo, Lond. 1837-8.

COW PLANT (*Gymnema lactiferum*): perennial plant of the nat. ord. *Asclepiadaceæ*, native of Ceylon; with erect stem, ovate leaves, and very short umbels; which has acquired a factitious celebrity from the statement made and often repeated that its milky juice is used as a substitute for milk, and that its leaves are boiled to supply the want of cream. But this, according to Sir J. E. Tennant, is altogether a mistake, and the name is derived merely from the appearance of the juice.

COWRY, n. *kow'ri* [Hind. *kauri*], (*Cypræa*): genus of gasteropodous mollusks of the ord. *Pectinibranchiata*—type of a family, *Cypræidæ*, to all of which the name C. is often extended—having the margin of the mantle prolonged into a siphon, by which water is conveyed into the gill-chamber; and a spiral convoluted shell, the spire visible in the young, but entirely concealed in the adult, and the

COWSLIP.

outer lip then thickened and bent in. The aperture extends the whole length of the shell. The shells, called *Porcelain Shells* by the French and Germans, are almost entirely calcareous in their composition, are richly enamelled, and often very beautiful. They are most abundant, and attain their largest size in the seas of warm climates. Only a few very small species are



Money Cowry.

found on the British coasts. Some of the species are much prized by collectors of shells. The Money C. (*C. moneta*) is of commercial interest, from its general use as a substitute for coin in many parts of Asia and Africa. It is not of great beauty, is yellow or white, often with a yellow ring, about an inch long, and nearly as broad as long. It is found on the Indian coasts, and in particular abundance on those of the Maldivé Islands, and is one of their principal exports. In Bengal 3,200 cowries are reckoned equal to a rupee, so that a C. is about equal in value to one thirty-sixth of a farthing. Yet cowries to the value of 200,000 rupees are said to have been at one period imported annually into Bengal. Many tons of cowries are annually imported into Britain, to be used in trade with the west of Africa, and this importation began when it was in the slave-trade that they were employed.—To the family *Cypræidae* belong the shells called *Poached Eggs* (*Ovulum*), the *Weaver's Shuttle Shell* (*Ovulum volva*), remarkable for its prolongation at both ends, etc. Fossils of this family are numerous in some strata, as in the *Bagshot Beds* (q.v.)



Cowslip.

COWSLIP, n. *kōw'slīp* [AS. *cū-slyppe*: probably for *cow's-leek*, as house-leek: Icel. *laukr*, a garden vegetable]: (*Primula veris*; see PRIMROSE): common native of pastures in England and many other parts of

COW TREE.

Europe, a delicate and modest little flower, a universal favorite, both for its beauty and for its fragrance. The flowers are small, in an umbel at the top of the scape, the limb of the corolla short and concave. The flowers have sedative properties, and are sometimes used as an anodyne and anti-spasmodic. They are fermented with sugar to make *cowslip wine*, an agreeable and favorite soporific domestic medicine.—The name VIRGINIAN COWSLIP is given to the *Dodecatheon Meadia*, a perennial plant, also of the nat. ord. *Primulaceæ*, native of N. America, with a stalk about eight inches high, bearing an umbel of gracefully pendent lilac flowers, the petals reflexed over the calyx, the stamens and pistil long, and the anthers of a golden color. It is very ornamental in the flower-border, flowering in the end of April or beginning of May.

COW TREE: name given to a number of species of tree of different nat. orders, the bland, milky juice of which is used instead of milk. They all are natives of tropical

countries, and belong mostly to nat. orders in which astringency is the general characteristic of the milky juice. Some of them belong to the nat. ord. *Moraceæ*, and are closely allied to the Fig; others to the nat. ord. *Artocarpaceæ*, one of which is the famous PALO DE VACA or C. T. of the Cordilleras and Caraccas (*Galactodendron utile*, now referred rather to the genus *Brosimum*, see BREAD-NUT). Another is the HYA-HYA (*Tabernamontana utilis*), native of equatorial America, belonging to the nat. ord. *Apocynaceæ*.



Cow Tree (*Galactodendron utile*).

The PALO DE VACA grows in rocky situations, at an elevation in equatorial regions of about 3,000 ft. It is a lofty tree, with laurel-like leaves, 10-16 inches long, and very small flowers. For several



Fruit of Cow Tree.

months in the year, not a shower moistens its foliage, and its branches appear dead; but as soon as the trunk is pierced, there flows from it a copious stream of sweet and nourishing milk. The milk flows most freely at sunrise. The natives are then seen hastening from all quarters with

COW-WHEAT—COX.

bowls to receive it. The milk has an agreeable odor, and a viscosity which does not belong to the milk of animals; it becomes yellow in a short time, and thickens or forms a sort of cream at the surface, which gradually thickens into a cheesy consistency before it begins to putrefy. This milk is nutritious, and is much used by the negroes and Indians; but differs very materially in its composition from the milk of animals, more than one-half being wax and fibrin; a little sugar, a salt of magnesia, and water chiefly making up the rest.

The HYA-HYA also yields a copious, milky juice, used in Demerara and elsewhere as an agreeable and nutritious substitute for milk.

COW-WHEAT (*Melampyrum*): genus of plants of the nat. ord: *Scrophulariaceæ*, having an oblong two-celled capsule, with a few seeds somewhat resembling grains of wheat. The species are natives of the temperate parts of the n. hemisphere, annual plants with opposite narrow leaves and yellow flowers, growing in woods, corn-fields, pastures, etc. Several are natives of England. They are said to be very fattening to cattle, and to give a peculiar excellence to butter.

COX, DAVID: landscape painter of the English school: 1783, Apr. 29—1859, June 7; son of of a Birmingham smith. He worked for a time as a smith, then at the toy-trade; next as an assistant to a scene-painter, from which he advanced to teaching and painting. He died at Harborne. An exhibition of his pictures, sketches, and water-color drawings was held in London in the same year. Before his fame was established, C. destroyed not a few of his drawings, or sold them for a few shillings; while before and after his death, £1,575 to £3,430 have been paid for single pictures. He was thoroughly insular, and distinctly English in his habits and tastes. His paintings are usually small, and chiefly Welsh subjects; they show thorough familiarity with nature, and, though sometimes rough in execution, are very effective; while he was remarkable for his success in sketching rain and wind, bursts of sunshine, or the herbage of marshes. In 1814, he issued a *Treatise on Landscape Painting in Water Colors*, which is still an authority.

COX, RICHARD: 1499–1581, July 22; b. Whaddon, England: clergyman. He was educated at Eton, and at King's College, Cambridge, appointed an officer of Christchurch College, Oxford, immediately after its establishment, by Cardinal Wolsey, thrown into prison for having accepted the doctrines of the reformers, and subsequently became master of Eton, prebendary of Ely cathedral, tutor to Prince Edward, and, after his accession to the throne, chancellor of Oxford, canon of Windsor, dean of Westminster, and privy councilor. He suffered a brief imprisonment under Queen Mary, lived sometime in retirement in Strasburg, whence he was recalled and appointed bp. of Ely by Queen Elizabeth, translated the four gospels, Acts of the Apostles, and Epistle to the Romans for the

COX—COXALGIA.

'Bishop's Bible;' assisted in compiling and revising the Liturgy; and was noted for his zealous and even violent defense of the reformed faith.

COX, SAMUEL HANSON, D.D., LL.D.: 1793, Aug. 25—1880, Oct. 2; b. Leesville, N. J.: Presb. minister. He was of Quaker parentage and education, studied law a few months, and then turned to theol.; was ordained by the presb. of N. J., 1817, July 1; became pastor of the Spring street Presb. church, New York, 1820; made a trip to Europe 1833, had his house and church sacked by a mob on account of his activity in the anti-slavery movement 1834, July 10; was chosen prof. of sacred rhetoric in the Auburn Theol. Seminary 1834, and was pastor of the First Presb. Church, Brooklyn, 1837-54, and most of this time was also prof. of ecclesiastical history in Union Theol. Seminary, New York. Upon the division of the Presb. Church, 1837, he gave his adhesion to the 'New School' branch, which he represented several times in important gatherings in Europe, and was moderator of its general assembly 1846. The failure of his voice compelled him to give up preaching 1854, and he subsequently made his home at Oswego, N. Y. He was author of *Quakerism not Christianity* (1833), and *Interviews, Memorable and Useful* (1853), besides numerous discourses and sermons.

COX, SAMUEL SULLIVAN: 1824, Sep. 30—1889, Sep. 10; b. Zanesville, O.: statesman and author. He graduated at Brown Univ. 1846, was admitted to the bar in Cincinnati, was editor and proprietor of the Columbus (O.) Statesman 1853-4, sec. of the U. S. legation in Peru 1855, and delegate to the national democratic conventions 1864, 68, and 76. In 1856 he was elected member of congress from the Columbus cong. dist., and served continuously by re-elections, 1857, Dec. 7-1865, Mar. 3. He removed to New York, 1865, was elected to congress 1868 and served continuously till 1885, when he was appointed U. S. minister to Turkey, which office he resigned 1886 to re-enter congress, of which he is still a member (1888). During his long service he has acted frequently as speaker of the house *pro tem.*, held chairmanship and membership on important committees, and introduced many popular measures that became laws. He has travelled extensively, and besides contributions to newspapers and magazines has written *The Buckeye Abroad* (New York, 1851); *Puritanism in Politics* (1863); *Eight Years in Congress* (1865); *A Search for Winter Sunbeams* (1870); *Why we Laugh* (1876); *Free Land and Free Trade* (1876); *Arctic Sunbeams* (1882); *Orient Sunbeams* (1882); *Three Decades of Federal Legislation* (1885); *Diversions of a Diplomat in Turkey* (1887), and *The Isles of the Princes* (1887).

COXA, n. *köks'ă* [L. *coxa*, the hip]: one of the highest parts of the hinder legs of an insect, corresponding to the hip of an animal.

COXALGIA, *köks-ăl'jī-a*, or COXITIS, *köks-ī'tīs*: chronic inflammation of the hip-joint, usually beginning in the head of the thigh-bone or the socket of the hip-bone, and ex-

tending to all the surrounding soft parts. The disease, most frequent among children, often proceeds from a fall or blow, and its early presence is detected by lameness, pain in the knee, and subsequent soreness in the joint itself. The limb becomes shortened, dislocation sometimes occurs, and, more frequently, the socket of the joint enlarges and the head of the thigh-bone separates from its shaft. Death may intervene from exhaustion, the absorption of pus, or pyæmia.

COXCIE, or COXIS, *kők'sē*, MICHAEL: 1497-1592; b. Mechlin, Belgium: painter. He pursued art studies with Van Orley and in Rome, where he executed a number of frescoes in the Church della Aurina, and is known chiefly by his copy of the *Adoration of the Lamb* by the Van Eyck brothers, painted for Philip II. of Spain, removed from Madrid to Brussels by the French, and subsequently mutilated and distributed between the art galleries of Berlin, Munich, and Amsterdam. He made also a notable series of illustrations of the fable of Cupid and Psyche.

COXCOMB, n. *köks'kōm* [*cock's-comb*, something resembling it formerly worn by licensed fools in their caps: comp. Gael. *caoch*, empty; *com*. the cavity of the chest]: a vain, conceited, silly man, fond of dress and personal display; a fop; a vain showy fellow; in *OE.*, a fool's cap; the head. COX'COMBRY, n. *-kōm-rī*, foppishness. COXCOMBICAL or COXCOMICAL, a. *köks-kōm'ī-cāl*, foppish; conceited.—SYN. of 'coxcombical': finical; dandyish; spruce; fanciful.

COXE, *köks*, ARTHUR CLEVELAND, D.D., LL.D.: b. Mendham, N. J., 1818, May 10; son of Samuel Hanson Cox, D.D., using an old spelling of the name: Prot. Episc. Bishop. He graduated at the Univ. of the City of New York 1838, and at the Gen. Theol. Seminary of the Prot. Episc. Church 1841; was ordained deacon 1841, June 27, and priest, Sep. 25; and was rector of St. John's Church, Hartford, 1843-54, Grace, Baltimore, 1854-63, and Calvary, New York, 1863-65. He was elected bp. of the diocese of Tex., but declined 1856; was consecrated asst. bp. of Western N. Y. 1865, Jan. 4, and became second bp. of that diocese 1868, April. From an early period of his ministry he has been active in the councils and work of the church. He has been a member of several general conventions; was author of a motion in the house of deputies 1853 which led to the revision of the prayer-book 1883; provisional bp. of the church in Hayti, where he organized churches and ordained clergy, 1872-74; delegate to the second Lambeth conference; and active opponent of the New Test. revision. He is a scholar of wide travel and large authorship, an expert controversialist, and an accomplished parliamentarian. Besides a large number of tracts, translations, sermons, lectures, and contributions to general literature, he has published *Advent, a Mystery* (1837), *Jonathan, the Lay of a Scold* (1838), *Athwood* (1838), *Athanasion and Other Poems* (1842), *Hallowe'en* (1844), *Christian Ballads* (1845), *Saul, a Mystery* (1845), and *The Ladye Chase* (1877), poems; *Apology for the English Bible* (1854),

Thoughts on the Services (1859), *The Criterion* (1866), *Anglican Orders* (in the *Union Chérienne*, Paris, 1867-8), an *Open Letter to Pius IX* (1869), and *L'épiscopat de l'occident* (Paris, 1872). He edited an American edition of *Translations of the Ante-Nicene Fathers* (1885-6), and in 1888, July, confirmed a large portion of Père Hyacinthe's congregation in Paris. He d. 1896, July 20.

COXEY, JACOB SECHLER: agitator: 1854— — — — —; b. Penn. As a boy he worked in a rolling-mill, and later began business on his own account, in turn being owner of a sandstone quarry at Massillon, O., and a horse-breeder near Lexington, Ky., afterward at Massillon. First a greenbacker in politics, he became a populist, and was a delegate to the populist convention in St. Louis 1896. As a businessman he showed enterprise and honesty, has always been popular among his neighbors, and his family life is said to be exemplary. Having been brought up an Episcopalian, he became a 'Christian Theosophist,' and advocated the reconstruction of society through reformed financial systems and juster relations between government and citizens. To promote a scheme for the issue of \$500,000,000, at the rate of \$20,000,000 a month, by the U. S. govt., for constructing good roads, thus giving employment to men out of work, he organized the 'Commonweal Army,' which left Massillon in 1894, March, on a foot-march to Washington, arriving there in April with 336 men. The scheme was a failure in every respect.

COXIM, *kō-shēm'*: one of the head-waters of La Plata. It rises in Matto Grosso, a frontier province of Brazil, toward Bolivia and Peru; and, after flowing first n.e. then n.w., it enters the Taquari, itself a tributary of the Paraguay, in lat. 18° 24' south. The C. receives many affluents.

COXSWAIN: see COCKSWAIN.

COY, a. *k y* [F. *coi*, still, quiet: It. *cheto*; Sp. *quedo*; L. *quiētus*, quiet]: bashful; modest; reserved; not accessible: V. to treat with reverse; to condescend unwillingly. COY'ING, imp. COYED, pp. *kōyd*. COY'LY, ad. *-lī*. COY'NESS, n. reserve; unwillingness to become familiar. COY'ISH, a. *-īsh*, somewhat coy. COY'ISHLY, ad. *-lī*. COY'ISHNESS, n. a quiet reserved bashfulness; unwillingness to become friendly.—SYN. of 'coy, a.': shy; distant; backward; shrinking; strange.

COYOTE: see WOLF.

COYPU, *koy-pō'* (*Myopotamus Coypu*): rodent quadruped nearly allied to the beaver, with which it agrees in the number and character of its teeth, in its short limbs, in its feet having five toes each, the hinder feet webbed and the fore feet not webbed, and to a considerable extent in its habits; but from which it differs in the form of its skull, having a more elongated muzzle and a contracted palate, and in its slender tail resembling that of a mouse. It is the only known species of its genus, and inhabits a great part of S. America, on both sides of the Andes, burrowing in the banks of the rivers, and sometimes in forests near the sea.

beach. It is very nearly equal in size to the beaver, has small ears, very long and stiff whiskers, and long hair mixed with dense and soft short hair, the upper parts beautifully pencilled with different shades of yellow, the sides



Coypu (*Myopotamus Coypu*).

and under parts lighter and more uniform in color. The fur has become an important article of commerce, under the name of *RACOONDA* (q.v.) and *NUTRIA*, the latter name signifying in Spanish an otter, apparently given it by mistake, but being that chiefly used in Britain.

COYSTREL, n. *kōys'trēl* [OF. *coustillier*, a squire who carried the arms by the side of his master]: in *OE.*, a groom or lad who carried a knight's arms, etc.; a degenerate hawk; an unwarlike attendant on an army; a cowardly man; a poltroon.

COZ, n. *kūz*, a contracted form of *cousin*.

COZEN, v. *kūz'n* [OF. *cousiner*, to claim kindred for particular ends, in *F.* to call any one cousin, to sponge: Gael. *coisinn*, to gain, to win]: to cheat; to defraud; to deceive. **Coz'ENING**, imp. *kūz'n-īng*. **COZENED**, pp. *kūz'ēnd*. **Coz'-ENER**, n. *-ēn-ēr*, a cheat. **Coz'ENAGE**, n. *-ēn-āj*, fraud; deceit; the practice of cheating.

COZIER, n. *kō'zī-ēr* [Gael. *coisear*, a pedestrian—from *coise*, feet]: in *OE.*, a traveller on foot; a tramp.

COZY, or **COSY**, or **COSEY**, a. *kō'zī* [Scot. *cosie*, sheltered, warm: Gael. *cos*, a recess; *cioseach*, a warm quiet corner]: warm; snug; comfortable; chatty; social; written also **COSIE**. N. a decorated padded cover put over a tea- or coffee-pot while on table to keep the pot warm and promote the perfect infusion of the tea or coffee. **Co'ZILY**, or **Co'SILY**, or **Co'-SEYLY**, ad. *-lī*.

COZZENS, *kūz'ēns*, **FREDERICK SWARTWOUT**: 1818, Mar. 5—1869, Dec. 23; b. New York: author. He was educated in New York, engaged in business as a wine merchant when 21 years old; edited and published the *Wine Press*, one of the earliest trade papers, and applied the greater part of his leisure to literary works. Excepting his essays on grape-culture and wine-making in his paper, and his *Memorial of Col. Peter A. Porter* and *Memorial of Fitz-*

CRAB.

Greene Halleck, his writings in prose and verse are highly humorous, and include *Prismatics* (articles contributed to the *Knickerbocker Magazine*, 1853); *The Sparrowgrass Papers* (1856); *Acadia; a Sojourn among the Blue-Noses* (1858); *A True History of New Plymouth* (1858); and *Sayings of Dr. Bushwhacker and other Learned Men* (1867).

CRAB, n. *krāb* [Sw. *krabba*, a crab-fish, from the notion of pinching, in allusion to the bitter taste: comp. Gael. *craobh*, a tree]: a sour harsh apple, growing on native, wild, or uncultivated trees; the *Pyrus mālus*, Ord. *Rosācēæ* (see CRAB APPLE): a peevish, morose person: ADJ. crablike; sour. CRABBED, a. *krāb'ēd*, sour and ill-tempered; rough; austere; peevish; morose. CRAB'BEDLY, ad. -*lī*. CRAB'BEDNESS, n. CRAB-LOBSTER (*Porcellana*), a genus of crustaceans, tribe *Anomura*. CRAB-LOUSE, a kind of louse, *Plithirius inguinalis*, found in certain cases on the human body, to which it closely adheres. CRAB-TREE, n. wild apple-tree. *Note*.—CRABBED, etc., may be connected with Dut. *krabben*, to scratch; *krībben*, to quarrel, to be peevish; Icel. *krabba*, to scrawl: hence, 'to write a crabbed hand,' is to write in a stiff, scratchy style.

CRAB, n. *krāb* [Sp. *cabra*, a goat, a machine for throwing stones; *cabria*, a crane: comp. Gael. *cabar*, a stake, a pole—*lit.*, the trunk of a tree, a windlass]: an apparatus something like a capstan, and used for similar purposes; an engine with three claws for launching ships. CRABER, n. *krā'bēr*, in *OE.*, the water-rat.

CRAB, n. *krāb* [Icel. *krabbi*; Dan. *krabbe*; Ger. *krebs*, a crab, the pinching animal: L. *carabus*; Gr. *karabos*, a prickly kind of crab, also a kind of beetle: Bret. *krab*, a crab; *kraban*, a claw]: popular name of all the crustaceans or shell-fish of the order *Decapoda* (highest order of crustaceans, characterized by great concentration of the nervous system and corresponding general concentration, by five pairs of thoracic limbs, and by having the gills inclosed in a special cavity on each side of the thorax, covered by the carapace) and sub-order *Brachyoura* (characterized by the small size of the abdomen, which resembles a short tail curved under the thorax and appressed to it, all the most important viscera being included in the thorax), and extended also to some of the sub-order *Anomoura* (Purse-crabs, Hermit-crabs, etc., characterized by a condition of abdomen intermediate between that of the *Brachyoura* and that of the *Macroura*, or Long-tailed Decapod Crustaceans, such as the Lobster, Cray-fish, &c.). All the crabs, besides many other crustaceans, were comprehended in the Linnæan genus *Cancer*; but the number of species is very great, and the *Brachyoura* alone are now arranged into many genera and even families. The different kinds of crabs differ very much in the form of the carapace (the back), which, in some is orbicular or nearly so; in some, much broader than it is long; in others, longer than broad; in some, prolonged in front into a kind of beak, etc.; also in its smoothness, or roughness with hairs, tubercles, or spines; in the length of the legs, etc. The eyes are compound, with hexagonal

CRAB.

facets, and are elevated on stalks, which are generally short, but sometimes considerably lengthened, and which have the power of motion, so as to turn the eye in different directions. The first pair of limbs are not used for locomotion, but exhibit in great perfection the characteristic claws or pincers (*chelæ*) of the decapod crustaceans. Crabs are inhabitants of almost all seas; most of them, however, having their limbs formed for walking rather than for swimming, are found chiefly near the coast; some inhabiting comparatively deep water, and others abounding in those parts which are left by the receding tide, where they occur equally in the rock pools and among the moist sea-weeds. Some small kinds of crabs (*Pea Crabs*) are often found in the inside of mussels and other bivalve mollusks. Some crabs inhabit fresh water, particularly in the warmer parts of the world; others, known as land-crabs (q.v.), live among moist herbage, or burrow in sand or earth. Some have the last pair of limbs expanded at the extremity into a broad blade for swimming, and some have even all



Large edible Crab (*Cancer Pagurus*.)

the four pair of limbs intended for locomotion thus expanded, and sometimes occur far out at sea. Some of the crabs, with very long legs, are known as Spider-crabs. Crabs molt or change their shell, not at fixed intervals or seasons, but according to the exigencies of their growth; the change being made with great frequency when they are very young, but rarely in advanced age: indeed, from the mollusks, and other animals sometimes found adhering to the carapace, it is inferred that the same covering is sometimes worn for a number of years.—For the metamorphosis of crabs, see CRUSTACEANS.—Crabs are interesting inmates of the aquarium, from their readiness in seizing food, their activity in tearing and eating it, their general habits, and, in particular, their pugnacity. The number of specimens is apt, however, to be soon diminished by the stronger killing and eating the weaker.—Many kinds of crabs are used as food in different parts of the world, as the Large Edible C. (*Cancer Pagurus*) and Small Edible C. (*Carcinus Mænas*) of the British shores. The latter is extremely common on all parts of the coast, but is not nearly so much esteemed as the former, which is much sought after, and is caught either in the holes of the rocks at low tide, or by means of a kind of trap, a basket which readily

permits its entrance but not its escape, and which is baited with meat or animal garbage of some kind. In winter it seems to retire to deeper water. Its black claws and very broad carapace, arched at the sides, distinguish it from many other species. It is sometimes nearly a foot in breadth. The claws of the Edible C. were formerly ground to powder and used as a medicine, having, however, no properties but those of carbonate of lime.

CRAB, ROGER: singular sectary of the English Revolution, who served for seven years in the parliamentary army: died, 1680, Sep. 11. C. set up in business as 'a haberdasher of hats' at Chesham, Buckinghamshire, and imbibed the idea that it was sinful to eat any kind of animal food, or to drink anything stronger than water. Determined to follow, literally, the injunctions given to the young man in the gospel, he sold of this stock-in-trade, distributing the proceeds among the poor, and took up his residence in a hut. His food consisted of bran, dock-leaves, mallows, and grass. The persecutions the poor man inflicted on himself caused him to be persecuted by others, unmercifully whipped, and put in the stocks. Though he declared that he was neither a Quaker, a Shaker, or a Ranter, he was four times arrested on suspicion of being a wizard, and was sent from prison to prison; yet still he would persist in his course of life. He published two pamphlets, one entitled *The English Hermit*; the other *Dagon's Downfall*. It is evident that he was insane. His last known residence was at Bethnal Green.

CRABB, *kräb*, GEORGE: 1778, Dec. 8—1854, Dec. 14; b. Palgrave, England: lawyer and philologist. He graduated at Oxford Univ. when 43 years old, and was admitted to the bar when 51. He compiled a number of educational text-books; *English Synonymes* (1816); *An Historical Dictionary* (1825); *Mythology of all Nations* (1847); *A Technological Dictionary*; *A History of the English Law*; *A Digest and Index of all the Statutes at Large*; *A Technical Dictionary of Terms used in Science and Art*; and *A Dictionary of General Knowledge*. His *English Synonymes* has been widely used.

CRAB: n. one of the signs of the Zodiac.

CRABBE, *kräb*, GEORGE: 1754, Dec. 24—1832, Feb. 3; b. Aldborough, in Suffolk: English poet. His father was a warehouse keeper, and collector of the salt-duties at Aldborough, and exerted himself to secure for his son a superior education. C. early showed a passion for all kinds of book-learning, with a decided bias toward poetry. After being tolerably grounded at school in mathematics and classics, he was, in his 14th year, apprenticed to a surgeon at Wickham Brook, near Bury St. Edmunds; but he had no liking for the profession, and ultimately went to London, 1780, with £3 in his pocket, to make a trial of literature. For a while he was very unfortunate. At last, when threatened with arrest for debt, he resolved to make his case known to Burke. He told Mr. Lockhart, years afterward, 'the night after I delivered the letter at the door, I

CRABETH.

was in such a state of agitation that I walked Westminster Bridge backward and forward until daylight.' The great orator at once appointed an interview, looked over C.'s poetical compositions, suggested several alterations which were adopted, and finally took *The Library* and *The Village* to Mr. Dodsley, by whom the first-named poem was published, 1781. C. went to reside at Beaconsfield with his generous and brilliant acquaintance, and while there met Fox, Sir Joshua Reynolds, and Lord Thurlow; the last of these invited the new celebrity to breakfast, and presented him with a bank-note for £100, at parting.

By the advice of Burke, C. entered into holy orders, and was ordained curate of his native place 1782. Shortly afterward he was appointed domestic chaplain to the Duke of Rutland, and took up his residence at Belvoir Castle. *The Village* appeared 1783, and established the reputation of its author. Shortly afterward, Lord Thurlow presented him with two small livings in Dorsetshire; and C., free from the fear of want, married Miss Sarah Elmy, and entered into the purest domestic happiness. In 1785, he left the castle, and took up his residence in the parsonage of Strathern; thereafter for many years he botanized, studied geology, wrote poems, saw—in hurried visits to London—the distinguished men of his time, and was courted by them, enjoying an uninterrupted course of happiness and honor.

The Newspaper appeared 1785; in 1807, C. published *The Parish Register*; in 1810, *The Borough*; two years later, he produced his *Tales in Verse*; and, 1819, he gave to the world his *Tales of the Hall*. In 1813 his wife died, and soon afterward he procured the living of Trowbridge, where, for the remainder of his life, he resided. In the autumn of 1822, he visited Edinburgh, and was the guest of Sir Walter Scott. His health began to fail at the age of 74, and four years later he died.

C. disdained all the luxuries of his art. He has no heroes with a Hyperian front, and no heroines radiant as Aurora. He worked with the delf, not with the porcelain of human clay. He concerns himself with wild smugglers, denizens of villages by the sea, full of ancient and fish-like smells; gypsies on the heath, cooking the fowl purloined from the neighboring barnyard; with tramps, vagabonds, and vagrants, and the inmates of the workhouse. On his page these unsavory individuals live, carouse, curse, brawl, and die. He has pages stern as anything in *The Inferno*; many, droll as Hogarth's pictures; and one or two so sweet, and tender, and pathetic, that no man of any sensibility can read them unmoved.

CRABETH, *krá'bět*, DIRK and WOUTER—the last surnamed the Elder: two brothers, glass-painters, in the latter half of the 16th c.: b. (it is supposed) at Gouda in s. Holland. It seems that Dirk visited France in his youth, while Wouter journeyed to Italy, where he studied the works of Raphael, as is evident from his productions. Wouter, it is said, surpassed his brother in drawing, grace,

and clearness, while Dirk surpassed him in coloring. They, however, were jealous of each other, and each concealed from the other the secrets of his processes. Their conjoint work in the church of St. John at Gouda, is the masterpiece of the two brothers. Of the eleven painted windows in that church, seven are by Dirk, and four by Wouter. They were done 1555—71. Dirk died, it is believed, 1601. It is unknown when Wouter died. The brothers were buried in the sanctuary that they had so surpassingly illustrated.

CRABIONIDÆ, *krā-brōn'ī-dē*: family of hymenopterous insects, section *Aculeata*, sub-section *Fossores*.

CRABRO, *krā'brō*: hymenopterous insect of the hornet family: see HORNET.

CRABS, n. plu.: in gaming, the lowest cast at hazard.

CRACIDÆ, n. *krās'ī-de* [mod. L. *crax* (gen. *cracis*); fem. pl. adj. suf. *-āda*]: the Currassows, a family of gallinaceous birds. Genera *Crax*, *Penelope*, *Ourax*, etc.; found in Central and S. America; apparently the American representatives of the *Phasianidæ* (pheasants) of the eastern world.

CRACK, n. *krāk* [a word imitative of the sound of a hard substance in splitting, or by the collision of hard bodies: F. *crac*; Dut. *krak*; Gael. *cnac*, a crack: Dut. *krakken*, to crack]: a partial break by which the parts are not wholly separated from one another; a chink or fissure; a crevice; a rent; any violent, sudden, or sharp sound; a smart, quick blow, such as may cause a rent; in *OE.*, a lad or youth: V. to rend; to burst or break partially; to split; to break completely, as a nut; to send forth a loud piercing noise; to echo loudly; to disorder or destroy; to throw out smartly with noise, as to *crack a whip*, to *crack a joke*. CRACK'ING, imp. CRACKED, pp. *krākt*. ADJ. split; broken; crazed. CRACK'ER, n. a noisy fire-work; a hard biscuit; anything that breaks sharply. CRACK-BRAINED, crazed. TO CRACK A BOTTLE, to open and drinks its contents. IN A CRACK, instantly; without delay.—SYN. of 'crack, v.': to shiver; tear; fissure; distress; disorder; derange; snap; puff.

CRACK, v. *krāk* [Gael. *crac*, to talk: *OE.* *crake*, to talk, to boast: F. slang, *cracher*, to talk: mid. L. *cracāre*, to croak]: in *Scot.*, to talk or converse in a familiar friendly way; in *OE.*, to brag; to boast; extol; praise: N. a familiar friendly conversation: ADJ. in *familiar language*, having qualities to be boasted of; first-rate, as a *crack horse*, a *crack stud*.

CRACKED HEELS: disease in horses' feet. From careless grooming, washing horses' legs and imperfectly drying them, permitting them to stand in accumulations of filth or exposed to draughts, the skin becomes inflamed, tender, itchy, thickened, and, by and by, cracked. An ichorous, noisome discharge exudes, and lameness often results. In animals with round *gummy* legs, it is sometimes constitutional; underbred horses, with rough hairy fetlocks, present the majority of cases; white heels, being more delicate, are especially affected; while the the hind limbs, exposed as they are to filth and cold, suffer most frequently.

CRACKERS—CRACOW.

Treatment. Cleanse carefully with tepid water; wash with a diluted solution of Goulard's Extract, or any other mild astringent, or dress occasionally with oxide or zinc ointment. Give, besides, a half-dose of physic, and a few mashies, carrots, swedes, or such laxative food, and where persistent, use diuretics (q.v.). When the affected parts are dry and irritable, poultice and apply glycerine before proceeding with astringents. In cold weather, especially when the horse is heated, avoid washing the legs, except with tepid water and with careful drying.

CRACK'ERS: name in the United States for what are known in Britain as BISCUIT (q.v.).

CRACKLE, *v.* *krăk'l* [from CRACK 1]: to send out slight cracks or snaps; to repeat small cracks rapidly; to crepitate. CRACKLING, *imp.* *krăk'ling*. CRACKLED, *pp.* *krăk'ld*. CRACK'LINGS, *n. plu.* cakes made from the refuse of tallow-melting, used for dogs' food. CRACKLE-WARE: see CRACKLIN. CRACKNEL, *n.* *krăk'něl* [*F. craquelin*, a cracknel]: a small brittle cake or biscuit.

CRACKLIN, *krăk'lin*: a kind of chinaware, the glazing of which is purposely cracked in the kiln, as an ornament; often called crackle-ware.

CRACOVIANNE, *kră-kō-vē-ě'n'* (*krakowiak*): national dance of the Polish peasantry around Cracow. It has a rather melancholy than lively melody in $\frac{2}{4}$ time, and is accompanied by singing. The pair who lead off the dance often begin with only the music of their own voices, and are soon followed by others, and the charm of the dance consists much in the diverting movements by which they seem to chase and avoid each other. The Poles have a multitude of little ditties of two lines each, adapted to this music and dance, which generally contain some allusion to natural phenomena, accompanied with some slight pleasantry.

CRACOW, *kră'kō* [*Pol. Krakov*]: formerly cap. of a small Polish republic, and anciently cap. of the kingdom of Poland, now an Austrian city; on the left bank of the Vistula, where it becomes a navigable river, in a beautiful plain surrounded by an amphitheatre of gentle hills; lat. 50° 4' n., long. 19° 52' e. It contains 46 churches, 15 monasteries, 10 nunneries, and 7 Jewish synagogues. The ancient city of C. is a labyrinth of narrow, dark, and deserted streets, but contains many fine specimens of Gothic architecture in its churches and other edifices; and some handsome buildings are also in the more modern suburbs. The old walls have been converted into a promenade. In the midst of the houses rises the castle, a huge building of imposing appearance. The cathedral contains the tombs of many of the Polish kings, and of some of the greatest men of the Polish nation. The university was founded 1364, by Casimir the Great, whose design was carried into effect by Jagello and Hedwig 1401. It was long the centre of light for Poland, but decayed under the influences of the Jesuits, till it ceased to exist. It was reorganized and reopened 1817,

CRACOWE—CRAFT.

and underwent important changes 1833. It has a museum of natural history, a botanic garden, a library of more than 140,000 vols., and many mss. of great value in connection with Polish history. Its manufactures are unimportant; and its trade, at one time extensive, became, for a period, very limited, but has of late years greatly revived, owing to the extension of its railway communications, which connect it with Vienna, Berlin, Warsaw, and Lemberg. Three miles w. of the city is a vast tumulus to the memory of Kosciusko. It is composed of earth taken from all the patriotic battle-fields of Poland.

C. was founded by Krak, Prince of Poland, from whom it derives its name about 700, became cap. of Poland 1320, and continued to be so till 1609, when that honor was transferred to Warsaw by Sigismund III. It was taken by the Bohemians 1039, by the Mongols 1241, by the Swedes 1655 and 1702, and by the Russians 1768. On the third partition of Poland, 1795, it was assigned to Austria. From 1809 to 15, it formed part of the Duchy of Warsaw. The congress of Vienna established it as a republic, with a small territory containing about 140,000 inhabitants, under the protectorate of Russia, Prussia, and Austria. The territory bordered with that of each of these great powers. Internal dissensions between the nobles and the common people afforded a pretence for interference, and the sympathy shown by the inhabitants of C. for the cause of Polish independence in 1830 and following years was made the ground of proceedings, which terminated, 1846, in the annexation of C. to the Austrian dominions, a measure alleged to be necessary for the security of the neighboring states, but against which Britain and France protested. C. now forms part of the Austrian crown-land of Galicia. An extensive line of fortifications has been constructed around it by the Austrians, with numerous detached forts, and one immense fortress on a height commanding the city, whose outworks extend over a space of about five miles. These works are intended as a barrier against the advance of Russia. Pop. (1900) 91,323, of whom 15,000 are Jews.

CRACOWE, n. *krá'kō* [from *Cracow*, a city in Poland]: a kind of boot or shoe, with extremely long pointed toes; introduced from Cracow.

CRADLE, n. *krā'dl* [AS. *cradol*; Gael. *creathall*, a cradle—from *creathach*, underwood: Gael. *craidhleag*, a basket, a creel]: a movable bed in which children are rocked to sleep, so named as made of wicker-work; infancy; a framework used for various purposes, as in ship-building; a rocking-machine used in gold-mining: V. to lay or rock in a cradle; to nurse tenderly. CRADLING, imp. *krā'dlīng*: N. the open timbers or ribs of any vaulted ceiling. CRADLED, pp. *krā'dld*, lodged as in a cradle.

CRAFT, n. *kräft* [AS. *craft*, strength, skill: Icel. *craft*, craft, force: Ger. *kraft*, strength, power: W. *craftu*, to seize with the understanding]: a trade requiring skill; manual art or skill; fraud; cunning; small sailing-ships. CRAFTSMAN, n. *kräfts'män*, a mechanic; an artificer. CRAFTS'MASTER, n.

CRAFT-CRAG.

a skilled artificer. CRAFTY, a. *krăfttĭ*, artful; cunning. CRAFTILY, ad. *-tĭ*. CRAFTINESS, n. *-tĭ-nĕs*, dexterity in devising and effecting a purpose; cunning. CRAFTLESS, a. destitute of craft. HANDICRAFT, n. *-ĭ-krăft*, a trade requiring skilled labor: ADJ. of or pertaining to skilled labor.—SYN. of 'crafty': wily; sly; deceitful; subtle; shrewd; fraudulent.

CRAFT, *krăft*: general designation for lighters, hoys, barges, etc., employed in loading or unloading large ships. In the navy, the name *small C.* is sometimes given to vessels commanded by lieutenants, such as cutters, schooners, gun-boats, etc. Also, craft is a term applied by seamen to any vessel whatever.

CRAG, n. *krăg* [Dut. *kraeghe*, the throat: Icel. *krage*, the collar of a coat; *kraki*, spittle: Ger. *kragen*, a collar, the throat]: in *Scot.*, and *OE.*, the neck; the throat.

CRAG, n. *krăg* [Gael. *creag* and *carraig*; W. *craig*, a rock; W. *careg*, a stone; *carëgôs*, pebbles]: a steep rugged rock; a cliff; a rocky point or ridge on a hill; in *geol.*, shelly tertiary deposits of the pliocene epoch, used as a fertilizer chiefly developed in Norfolk and Suffolk, characterizing several groups of strata: see NORWICH OR MAMMALIFEROUS CRAG: RED CRAG. CRAGGY, a. *krăg-gĭ*, also CRAGGED, a. *krăg-gĕd*, covered with crags, or broken rocks; rugged: CRAGGEDNESS, n. *-gĕd-nĕs*, fulness of crags or prominent rocks: CRAGGINESS, n. *-gĭ-nĕs*, state of being craggy: CRAG AND TAIL, in *geol.*, peculiar hill conformation, in which a bold and precipitous front exists on one aspect of a hill, while the opposite shows a sloping declivity. Those who first observed this form of the surface, believed it was the effect of currents of water moving in the direction indicated by the C. and T.; latterly, there have been speculations calling in the aid of ice, though not excluding the action of water. Fine examples of this structure occur in and around Edinburgh, where the western current has left the bold 'Craig' facing the w., and the 'Tail' sloping toward the e.; for example, the castle rock, precipitous and unapproachable on every side except the e., where it has protected the shale and sandstone beds from erosion. The direction and progress of the current can easily be traced;



Castle Rock, Edinburgh.

rushing against the hard basalt of the castle rock, it was turned aside, and continued its course eastward, hollowing out the Nor' Loch on one side and the Cowgate valley on the other, until the influence of the rock being lost, and aided by the resistance of the Calton hill and Salisbury crags, the currents again met in the valley at Holyrood, when the 'tail' entirely disappears.

CRAIG.

CRAIG, *krāg*, JOHN: abt 1512–1600, Dec. 12; b. Scotland: eminent preacher of the Reformation. Having spent some time as a tutor in England, he returned to Scotland and entered the Dominican order, of which he had not long been a member when he fell under suspicion of heresy, and was cast into prison. On his release, he travelled on the continent; and, after some time, was, through Cardinal Pole's influence, intrusted with the education of the novices in connection with the Dominican order at Bologna. While here, Calvin's *Institutes* fell in his way, and converted him to Protestant doctrines. Having openly avowed the change in his opinions, he was brought before the Inquisition, and sentenced to be burnt – a fate from which he was saved by the mob, on the death of Pope Paul IV., breaking open the prisons in Rome, and setting the prisoners at liberty. C. escaped to Vienna, and obtained some favor at the court of Maximilian II.; but the news of his being there reached Rome, and the pope demanded his surrender as one condemned for heresy. The emperor, however, instead of complying, gave C. a safe-conduct out of Germany. He returned to Scotland, and was appointed the colleague of John Knox in the parish church of Edinburgh. Thinking the marriage of Queen Mary and Bothwell contrary to the word of God, he boldly refused to proclaim the banns. In 1572, C. was sent 'to illuminate the dark places' in Forfarshire and Aberdeenshire, and remained in the north till 1579, when he was appointed minister to king James VI. in Edinburgh. He now took a leading part in the affairs of the church, was the compiler of part of the second book of discipline, and the writer of the national covenant signed, 1580, by the king and his household. He was not slow to oppose the proceeding of the court, when he deemed them opposed to Scripture: see the fac-simile edition of C.'s *Short Summe of the whole Catechisme*, of 1581, with Memoir by T. G. Law (1883).

CRAIG, THOMAS: abt. 1538–1608, Feb.; b. Scotland: author of the well-known *Treatise on the Feudal Law*. Educated first at St. Andrews, he prosecuted his studies at Paris, and passed as an advocate at the Scottish bar, 1563, Feb., and in that or the following year was appointed justice-depute to Archibald, Earl of Argyle, hereditary justice-gen. of Scotland. In literary pursuits, C. had distinguished himself above all his contemporaries, and while at the head of the criminal judicature of Scotland he did not neglect the *belles-lettres*, as was evidenced by an epithalamium on the queen's marriage with Darnley, and by a poem on the birth of James I. Besides his work on *Feudal Law*, C. wrote on the *Succession to the Throne of England*; also a treatise on the union of Scotland and England, and one on *Homage*, vindicating Scotland from the charge of feudal dependence on England; and many poetical pieces. In the latter part of his life, C. acted as advocate for the Church of Scotland. He seems to have been high in favor with James VI., who wished to confer the honor of knighthood upon him; and when C. steadily

CRAIGLEITH STONE—CRAIK.

refused, ordered that all persons should address him as if he really had accepted the honor.

CRAIGLEITH STONE: siliceous sandstone belonging to the carboniferous series, quarried at Craigleith, near Edinburgh, and largely used for building in that city, for which it is admirably adapted by its purity, durability, and the ease with which it can be wrought.

CRAIK, *krāk*, **DINAH MARIA** (MULOCK): 1826–1887, Oct. 12; b. Stoke-on-Trent, England: author. She was the daughter of a clergyman of the Established Church, and was left an orphan, with two younger brothers to look after, when a mere child. Her first novel, *The Ogilvies*, was published 1849, and her last finished work was an article written for the *Forum* of New York. A pension of \$300 per annum was conferred upon her, 1864. She was married, 1865, to George Lillie C., Jr., of the London publishing house of MacMillan & Co. She was a strong advocate of the movement to secure the legalization of a marriage with a deceased wife's sister. Her most popular novel was *John Halifax, Gentleman* (1857), though she regarded *A Life for a Life* (1866), as her best work in literary style and construction. Her published works number over 30 volumes.

CRAIK, **GEORGE LILLIE**: 1799–1866; b. Fifeshire, Scotland. He was educated for the ministry at St. Andrew's Univ., but, preferring a literary career, he went to London, 1824. His first work of importance was the *Pursuit of Knowledge under Difficulties* (1831), in the series of publications by the Soc. for the Diffusion of Useful Knowledge. He contributed largely to the *Penny Cyclopædia*. In 1839, C. became editor of the *Pictorial History of England*, writing some of the most valuable chapters—among them, *Sketches of the History of Literature and Learning in England from the Norman Conquest to the Present Time* (6 vols. 1844), and *History of British Commerce from the Earliest Times* (3 vols. 1844); and, in the same year, *Bacon, his Writings and Philosophy*. In 1849, C. was appointed to the chair of history and English literature in Queen's College, Belfast, which he occupied till his death. C. had an energetic mind; and as a writer he was clear, accurate, and conscientious. His works contained suggestions in politics and social science which were afterward appropriated by, or ascribed to, others; e. g., in the first class, the idea of mutual citizenship; in the second, that of the representation of minorities. Between 1849–52 appeared his *Romance of the Peerage*; 1855, his *Outlines of the History of the English Language*; 1857, *The English of Shakespeare*.

CRAIK, **JAMES**: 1731–1814, Feb. 6; b. Scotland: physician. He studied medicine and surgery with the intention of serving in the British army; emigrated to Va.; served with Washington in his French and Indian expedition, 1754, and with Braddock, 1755; became a surgeon in the revolutionary army, and was director of the Yorktown hospital; settled near Mount Vernon on the conclusion of peace; and was Washington's family physician.

CRAIL—CRAKE.

CRAIL, *krāi*: royal and parliamentary burgh and seaport in the 'East Neuk' of Fifeshire, Scotland, 2 m. s.w. of Fife Ness, 10 m. s.e. of St. Andrews. C. was a town of some note in the middle ages, being then called Caryll. There are traces of an old castle and of a priory college. The Established Church (Presb.), though it has undergone



Crail Church (before the restoration).

many alterations, is still substantially the ancient structure; and the square tower, with the brooch (q. v.) which springs from it, are in their original condition. It was after a sermon preached in this church by Knox, 1559, that his hearers rushed in an infuriated mob to St. Andrews, and burned the magnificent cathedral of the Episcopal metropolis. Abp. Sharp was for some time minister of Crail. There is a small, safe harbor. C. was formerly the great rendezvous for the herring fishery, and there has been a great revival in this branch of trade of late years. The town has the interest of antiquity, and is pleasantly situated on a bold coast. It is lighted with gas, has good shops and markets, a reading-room, lecture institute, etc. Pop. (1881) 1148.

CRAKE, v. *krāk* [Gael. *crac*, to talk; *cracaire*, a talker: perhaps imitative of the hoarse croak of the crow (see **CRAKE** 1 and **CRACK** 2)]: in *OE.*, to brag; to boast; to utter boastingly and offensively: N. a boast; exultation. **CRA'KING**, imp. **CRAKED**, pp. *krākt*.

CRAKE, n. *krāk* [Icel. *kraka*, a crow; *krakr*, a raven], (*Orex*): genus of birds of the rail family (*Rallidae*), differing from the true rails in having the bill shorter than the head and comparatively thick. The wings are armed with a small concealed spine. The name is derived from the harsh call-note of the male. The best known species is the common **CORN-CRAKE** or **LAND-RAIL** (*C. pratensis*), the frequent call-note of which is heard from fields of wheat or rye in valleys and low grounds in early summer. The corn-crake is a very pretty bird, of a reddish-brown color,

CRAM—CRAMBE.

marked with dark-brown in streaks along the middle of the feathers, lighter below; it has rather long legs and long toes; the tail is very short and pointed. It runs very swiftly, so as to be able sometimes to escape from a dog; but flies rather heavily, though it is a bird of passage, seen in Britain only in summer. It visits, in like manner, all northern Europe, and even Iceland, spending the winter on the shores of the Mediterranean and in Africa. Its call-note



Corn-Crake (*Crex pratensis*.)

may be so exactly imitated by passing the edge of the thumb-nail briskly along the points of the teeth of a small comb, that it can thus be decoyed within a short distance, though it is a very shy bird, and many persons who have never seen it are familiar with its cry. Its weight is ordinarily about six ounces. It is highly esteemed for the table. Two or three other species, common in southern Europe, are found chiefly in marshy grounds, and sometimes receive the name of SORA (*Zapornia*). With them is ranked the CAROLINA RAIL or SORA RAIL (*C. Carolinus*) of N. America, which spends its winters in the States near the Gulf of Mexico, but migrates northward in summer: it is sometimes seen in vast numbers about marshes and the reedy margins of lakes and rivers, particularly in its migration southward in autumn. Its size is about equal to that of the corn-crake; and its color is very similar, but with mingled short streaks of white. It is much esteemed for the table.—In O. E. the name C. was applied to the crow.

CRAM, v. *krām* [AS. *cramman*, to stuff: Icel. *krami*, pressure; *kremja*, to press, to crush: Dan. *kramme*, to crush]: to press or drive in; to fill to excess; to stuff; to eat greedily. CRAMMING, imp. CRAMMED, pp. *krāmd*. The following may be called *polite slang*:—CRAM, v. to prepare, in a limited time, for passing an examination by the stuffing in of intellectual food, whether by a tutor called a ‘coach,’ or by one’s own endeavors: N. the information so imparted or acquired. CRAMMING, n. *krām’ing*, the act of preparing, in a limited time, for passing an examination, by only acquiring that amount of knowledge necessary to answer the questions that may be proposed. CRAM’MER, n. one who crams.

CRAMBE, *krām’bē*: genus of plants of the nat. ord.

CRAMBIDES—CRAMP RINGS.

Cruciferae; having a pouch (*silicle*) of two unequal joints, of which the upper is globose and one-seeded, the lower abortive. The cotyledons (q.v.) are conduplicate. The species, not very numerous, are scattered over the world. One is a native of Britain, *C. maritima*, the well-known SEA-KALE (q.v.). Another, *C. Tartarica*, with much divided leaves and a great fleshy root, native of Hungary and central Europe and Asia, is sometimes called Tartar Bread; and its root is eaten in the countries of which it is a native, either boiled, or more generally peeled and sliced with oil, vinegar, and salt.

CRAMBIDES, n. plu. *krām'bī-dēs* [L. *crambus*, and *-ides*]: a group of moths, tribe *Pyratidina*. There are four families: (1) *Eudoreidæ*, (2) *Galleridæ*, (3) *Phycidæ*, (4) *Crambidæ*. CRAMBUS, *krām'bus*: genus of moths, typical of the family *Crambidæ*.

CRAMBO, n. *krām'bō* [probably from *cram*: comp. Gael. *crom*, crooked]: a play in which one person gives a word and another finds a rhyme; a word rhyming with another: ADJ. in *Scot.*, crooked, as a 'crambo-jingle.'

CRAMP, n. *krämp* [Dut. *krampe*; F. *crampon*, a hook: OF. *crampe*—from Ger. *krampf*, a spasm, a cramp; Bret. *kraban*, a claw: It. *granfo*, contraction, drawing together: comp. Gael. *crom*, crooked—*lit.*, that which contracts or draws in]: a painful contraction of a muscle, particularly of the leg or foot; a spasm; restraint; a short piece of iron bent at the ends: V. to contract or draw in; to pain with the cramp or spasms; to restrain or confine; to fasten with a cramp-iron. CRAMPING, imp. CRAMPED, pp. *krāmt*: ADJ. packed or squeezed up into insufficient room. CRAMPOONS, n. plu. *krām-pōns'*, also CRAMP-IRONS, hooked pieces of iron for raising stones, etc.; in *mil.*, irons fastened to the feet of a storming-party to assist in scaling walls. CRAMPONS, n. plu. *krām'pōns*, in *bot.*, the roots which serve as supports to certain climbers, as in the ivy. CRAMP-FISH, the torpedo-fish, which causes a numbness in those who touch it.

CRAMP: irregular, involuntary, and painful contraction of a voluntary muscle, without insensibility or other disturbance of the general system. C. is often the effect of cold, and has proved fatal to swimmers by disabling them suddenly in the water. Otherwise it is a disease of little importance, and readily removed by warmth and friction, with regulated movement of the muscles affected. Cramps are a distressing symptom in cholera (q.v.), in which disease it has been proposed to treat them by applying a tight bandage or tourniquet (q.v.) to the affected limbs: see SPASM.

CRAMP RINGS: rings supposed to cure cramp and the 'falling-sickness.' They are said to have originated as far back as the middle of the 11th c., in a ring presented by a pilgrim to Edward the Confessor, which, after that ruler's death, was preserved as a relic in Westminster Abbey, and was applied for the cure of epilepsy and cramp. Hence appears to have arisen the belief that rings blessed

CRAN—CRANACH.

by English sovereigns were efficacious in such cases; and the custom of blessing for distribution large numbers of C. R. on Good Friday continued to the time of Queen Mary. Lord Berners, ambassador to Spain in Henry VIII.'s time, writes from Saragossa to Cardinal Wolsey: 'If your grace remember me with some crampe ryngs ye shall doo a thing muche looked for; and I trust to bestow thaym well with Goddes grace.' The metal of which the rings were composed was what formed the king's offering to the cross on Good Friday, usually either gold or silver. The superstitious belief in the curative property of certain rings lingers in some less enlightened English counties.

CRAN, n. *krän* [Gael. *crann*, a barrel full of fresh herrings]: the quantity of fresh herrings which will fill a barrel of the capacity of about $37\frac{1}{2}$ gallons.

CRAN, n. *krän* [Scot. (see CRANE)]: in *Scot.*, a crooked and clawed iron instrument laid over a fire to support a pot or kettle, etc., while cooking—so named from its supposed likeness to a crane.

CRANACH, *kran'ak* or *krá'nách*, LUCAS: 1472-1553, Oct. 16; b. German painter, in the bishopric of Bamberg: Little is known of his early life, except that he was instructed in art by his father—that he visited Palestine 1493 with the Elector Frederick the Wise of Saxony, who made him his court painter 1504, at which period he was in high repute, especially for his facility. In 1508, the elector made him a grant of armorial bearings, having for crest a winged serpent. He made a journey into the Netherlands 1509, and there drew a picture of Charles V.—the future emperor—then nine years old. C. seems to have acted as *factotum* at the court of the elector and his two successors, preparing for and directing the ceremonies and festivities, and knew besides how to follow other lucrative trades. In 1530 he bought an apothecary's business at Wittenberg, where he was also a bookseller and paper-maker, became councillor and chamberlain, and was twice chosen burgomaster of the town.

C. was closely connected with the early reformers. He was the intimate friend of Luther, whose picture he several times painted. In 1550 he went to Augsburg to share the imprisonment of the elector, and returned with him to Saxony 1552. C. died at Weimar, in the 81st year of his age, and was buried in the court church there. He had two sons, one of whom, Lucas, was known by the name of 'the young Cranach,' an excellent colorist and portrait-painter.

C. left an unusually large number of authentic pictures—indeed, he painted beyond his powers. He excelled in portraits, in painting animals, in fabulous and droll pieces, and was an excellent colorist; but failed in form, grace, and unity, and in the higher walks of art. His last and greatest work is an altar-piece in the church of Weimar—a mystical representation of the crucifixion. His peculiar humor is best seen in such pictures as his *Samson and Delilah* and his sylvan scene containing *Apollo and Diana*.

CRANBERRY.

CRANBERRY, n. *krän'bër-rĭ* [Ger. *kranbeere*—so named from the supposed resemblance of its slender stalk to the long legs and neck of a crane], (*Oxycoccus*): genus of small evergreen shrubs of the nat. ord. *Vaccineæ*, distinguished from the genus *Vaccinium* (see WHORTLEBERRY) by the wheel-shaped corolla, with segments rolled back and the filaments leaning to the pistil. The species are few, natives of the colder regions of the n. hemisphere. The fruit



Cranberry (*Oxycoccus palustris*):
a, part of stem and branches, with roots, leaves, and flowers; *b*, a berry; *c*, transverse section of a berry.

is acid, and is in great request for making tarts. The Common C. (*O. palustris*, formerly *Vaccinium Oxycoccus*), is a native of northern Europe, Asia, and America. It grows in peaty bogs and marshy grounds, and is a small wiry shrub with creeping thread-like branches, and small oval leaves rolled back at the edges. The blossoms are small but beautiful, of a deep flesh color. Large quantities of the fruit are collected in some places, though the draining of bogs has made it scarce where it was plentiful. In Germany it is collected by means of a wooden comb, and preserved with sugar. In England, cranberries are often preserved in bottles closely corked or filled with pure water, in which they may be kept for a long time. They are an excellent addition to sea stores. Wine is made from them in Siberia, and a beverage made from them is sold in the streets of St. Petersburg.—The AMERICAN C. (*O. macrocarpa*) is a much larger and more upright plant, with leaves much larger and less rolled back at the margin. The berries also are larger and of a brighter red. It is a native of N. America, frequent in Canada, and as far s. as Virginia, growing in bogs, and particularly in elevated situations and where the soil is sandy. The berries are collected by means of a rake. Large quantities are exported to Europe. Both kinds may be cultivated in gardens, in a peat-soil kept very moist or round the margin of a pond, and the produce of a small space properly managed is so great as to make the culture very profitable.—

CRANBROOK—CRANE.

The berries of the red whortleberry (*Vaccinium vitis idaea*) are sold under the name of cranberries in some places in Scotland, and are used in the same way.—A third species of C. (*O. erecta*, formerly *Vaccinium erythrocarpon*), native of lofty mountains in Virginia and Carolina, is a shrub two ft. high, and with a habit more like that of the whortleberries than of the other cranberries; it has a fruit remarkable for transparency and of exquisite flavor, and appears to deserve attention and cultivation.—The TASMANIAN C. is the fruit of *Astroloma humifusum*, a little shrub with trailing stems, leaves somewhat resembling those of juniper, and beautiful scarlet blossoms, found in all parts of Van Diemen's Land. It belongs to the nat. ord. *Epacridaceæ*. The fruit is of a green or whitish color, sometimes slightly red, about the size of a black currant, and consists of a viscid apple-flavored pulp, inclosing a large seed.—*Styphelia adscendens*, a small prostrate Australian shrub of the same nat. ord., has a similar fruit; and in New South Wales the name C. is given likewise to the red acid berries of *Lissanthe sapida*, a low evergreen shrub, with small white flowers, also belonging to *Epacridaceæ*.

CRANBROOK, *krän'brūk*: small town in the s. of Kent, England, 30 m. s.w. of Canterbury; near the Crane, on an outlying ridge of the Hastings sand formation; the chief village of the Weald. It has a large hop business. It was the centre of the clothing manufacture, introduced by the Flemings in the time of Edward III.; but this branch of industry has long since disappeared. Pop. of parish (1881) 4,216.

CRANCH, v. *kränsh*: see CRAUNCH.

CRANCH, WILLIAM, LL.D.: 1769, July 17—1855, Sept. 1; b. Weymouth, Mass.: jurist. He graduated at Harvard 1787; was admitted to the bar 1790; was appointed an associate judge of the U. S. circuit court for the Dist. of Col 1801, Feb. 27; and was appointed chief justice of that court 1805. He held this office till his death, and during a period of over half a century had only two decisions overruled by the supreme court. His reports of cases decided in the circuit court 1801–41, were published in 6 vols. 8vo; and those of the U. S. supreme court 1801–15, in 9 vols., with supplementary issues in 1835.

CRANE, n. *krān* [AS. *cran*; Ger. *kranich*; Dut. *kraan*, a crane: W. *garan*, a crane, a shank—from *gar*, a leg: comp. Gael. *crann*, a tree, the mast of a ship]: a wading-bird having long legs and a long neck; a machine for raising and removing heavy goods; a bent metal tube with a stop for drawing off liquors; a siphon. CRA'NAGE, n. *-nāj*, the dues paid for the use of a crane; liberty of using a crane. CRANE'S BILL, n. the wild geranium of many species, so named from the seed-vessels resembling the beak or bill of a crane; a popular name for the genera and species of the ord. *Geraniaceæ* (see GERANIUM): long-beaked pincers used by surgeons.

CRANE (*Grus*): genus of birds of the order *Grallatores*, type of the family *Gruidæ*. This family differs from

CRANE.

herons, bitterns, storks, etc., in having the hind-toe higher on the leg than the front toes. It consists also of birds less addicted to marshy places, and which feed not only on animal, but, to a considerable extent, on vegetable food. They all are large birds, long legged, long necked, and of powerful wing, though their wings are rounded and not elongated; some of them performing great migrations, and flying at a prodigious height in the air. One of these is the COMMON C. (*G. cinerea*), which breeds in northern Europe and Asia, retiring in winter to tropical or sub-



Crane (*Grus cinerea*).

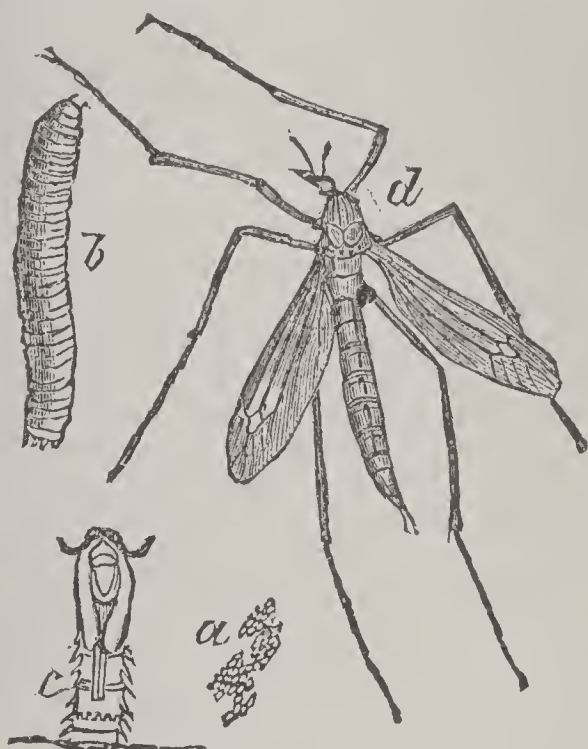
tropical regions. Flocks of cranes periodically pass over southern and central Europe, uttering their loud harsh cries in the air, and occasionally alighting to seek food in fields or marshes. The C., when standing, is about four ft. in height; the prevailing color is ash-gray, the face and throat nearly black, the wing primaries black. The tertial feathers of the wings are elongated reaching beyond the ends of the primaries, and their webs are unconnected; they are varied and tipped with bluish-black, and are the well-known plumes once much used in ornamental head-dresses. The C. feeds on roots, seeds, etc., as well as on worms, insects, reptiles, and even some of the smallest quadrupeds. It is much esteemed for the table.—There are several other species of crane. The WHOOPING C. (*G. Americana*) is considerably larger than the common C., which it otherwise much resembles except in color; its plumage, in its adult state, is pure white, the tips of the wings black. It spends the winter in the southern parts of N. America. In summer it migrates far northward, but rather in the interior than the eastern parts of the continent.—To the C. family belong also the Demoiselles (q.v.), with which, rather than with the true cranes, the Balearic cranes or Balearicans are ranked.—Cranes use their bill as a dagger, and when wounded are dangerous to the eyes of a rash assailant.

CRANE: machine for lifting weights. Cranes are of

CRANE-FLY—CRANGANORE.

various kinds; the most common consist of an upright revolving shaft, with a projecting arm or jib, having a fixed pulley at the extremity, over which is passed one end of the rope or chain to receive the weight, the other end being attached to a cylinder with wheel and pinion, by means of which the weight is raised to the required height. By the lateral revolving motion of the upright portion, the load can be deposited on any spot within the sweep of the jib.

CRANE-FLY (*Tipula*): genus of dipterous (two-winged) insects of the family *Tipulidæ*, to the whole of which the name C. is often extended, nearly allied to the Gnat family



Crane-Fly (*Tipula oleracea*):

a, eggs; b, larva; c, pupa case as left by the insect, sticking out of the earth; d, perfect insect.

(*Culicidæ*), which they resemble in their beautifully feathered and tufted antennæ, but from which they differ in having a comparatively short proboscis. The true crane-flies are also of comparatively large size. They have lanceolate spreading wings, and very long legs. One species (*T. oleracea*) is the well-known *Daddy* (or *Harry*, or *Peter*) *Long-legs*. This and other species abound in arable lands, gardens, meadows, etc., in summer; and their larvæ—remarkably tough worms without legs, sometimes confounded with wire-worms by farmers—are extremely destructive to crops of various kinds, devouring the roots of corn and pasture grasses, potatoes, turnips, and almost all the plants ordinarily cultivated either in field or garden. Rolling of fields is useful in killing them; and soot, salt, and other applications are employed in gardens.

CRANGANORE, *krân-gan-ôr'* (properly *Kodungalûr*): town in Cochin state, on the w. coast of s. India: on one of the openings of the great Cochin backwater, 18 m. n. of

CRANGON—CRANK.

Cochin Town. The place is notable historically. Here the apostle Thomas is said to have labored. Possessed by the Portuguese, it was taken from them by the Dutch about 1663; and after being purchased by the rajah of Travancore 1789, and wrested from him by Tippoo Sultan 1790, it was conceded by the latter to the British. But the more ancient history of the place is still more interesting, for here have existed, from the 4th and 5th c. respectively, congregations of Jews and Christians. Pop. abt. 10,000.

CRANGON, n. *kräng'gön* [Gr. *krangōn*, a shrimp]: genus of crustaceans, typical of the family *Crangonidae*. CRANGONIDÆ, n. plu. *kräng-ön-ï-dē* [L. *crangon*, and *-idæ*]: family of macrourous (long-tailed) crustaceans: see SHRIMP.

CRANIA, n. *krā'nī-a* [L.L. *cranium*]: genus of mollusks, typical of the family *Craniadæ*. CRANIADÆ, *-a-dē*, or CRA'NIIDÆ, *-ï-dē*, family of mollusks, class *Brachiopoda* (q.v.).

CRANICHIDÆ, n. plu. *krā-nich'ï-dē* [L. *cranichis*, and *idæ*]: in bot., family of orchids, tribe *Neottæ*.

CRANIUM, n. *krā'nī-ŭm*, CRA'NIA, n. plu. *-nī ā* [Gr. *krānion*; mid. L. *crānium*, the skull]: the bony or cartilaginous case containing the brain; the skull: see SKULL. CRANIAL, a. *krā'nī-āl*, of or pertaining to the skull. CRA'NIA, n. plu. *-ā* [Gr. *kranos*, a helmet or headpiece]: a genus of small brachiopods having the lower valve flat and the upper limpet-like or helmet-shaped. CRA'NIOL'OGY, n. *-ōl'ō-jī* [Gr. *logos*, a discourse]: the science that treats of the skull in connection with the faculties and propensities of animals; phrenology. CRA'NIOL'OGIST, n. *-jīst*, one skilled in the study of the skull. CRA'NIOLOG'ICAL, a. *-lōj'ï-kāl*, pertaining to the study of the skull. CRA'NIOG'NOMY, n. *-ōg'nō-mī* [Gr. *gnomon*, an index or interpreter]: practical phrenology. CRA'NIOM'ETER, n. *-ōm'ē-tēr* [Gr. *metron*, a measure]: an instrument for measuring skulls. Dr. Morton gives the following as the average results in cubic inches of numerous measurements of skulls: European, 87; Malay, 85; Negro, 83; Mongol, 82; Ancient Egyptian, 80; Americans, 79; Ancient Peruvian, 75-79. Prof. Huxley says that the most capacious European skull has a capacity of 114 cu. in.; the smallest 55 cu. in. Schaffhausen finds Hindu skulls of 46 cubic inches. CRA'NIOM'ETRY, n. *-ōm'ē-trī*, the art of measuring skulls. CRA'NIOMET'RICAL, a. *-mēt'rī-kāl*. CRA'NIOS'COPY, n. *-ōs'kō-pī* [Gr. *skopēō*, I see or look]: the scientific examination of the skull. CRANIOTOMY, n. *krā'nī-ōt'ō-mī* [Gr. *tomē*, a cutting]: the operation of opening the skull.

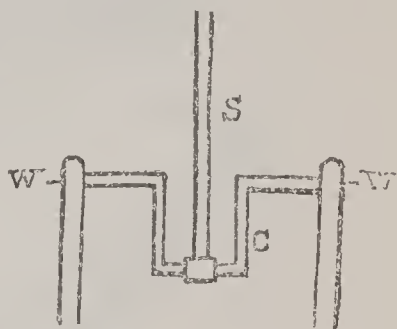
CRANK, n. *krängk* [Dut. *kronkelen*, to twist, to bend; Lap. *kranket*, to crook, to bend; Dan. *krängel*, crooked; prov. Eng. *cringle-crangle*, zigzag]: anything bent or turned; in a machine, an iron axis bent and jointed like an arm, used for changing a rotary motion into a horizontal or perpendicular one, or the contrary; a metal brace. CRANK-BRACE, the usual form of brace, which has a bent shank by which it is rotated. CRANKED TOOL, a tool made to embrace the rest, by which it is prevented from slipping away

from the work. CRANKLE, v. *kräng'kl*, to run into folds or wrinkles; to break into unequal surfaces. CRANKLING, imp. *kräng'klīng*. CRANKLED, pp. *kräng'kīd*.

CRANK, a. *krängk*, or CRANKY, a. *kräng'kī* [Icel. *kranga*, to stagger, to zigzag: Dut. *krengen*, to press down a vessel on its side: Lap. *kranket*, to bend]: inclined to heel over, as a ship that wants steadiness; liable to be upset. CRANK'NESS, n. *-nēs*, or CRANK'INESS, n. *-kī nēs*, liability to be overset, as a ship that wants steadiness. CRANK'Y, a. applied to a man or woman aged and feeble; having a complaining tone; peevish; querulous. CRANKS, n. plu. *krängks*, conceits by changing or twisting a word, as in *quips* and *cranks*.

CRANK, a. *kränk* [Ger. *krank*, sick]: in *OE.*, sick; ill; sprightly; healthy: N. a sick person; an invalid: V. to run in and out; to move to and fro; to turn. CRANK'ING, imp. CRANKED, pp. *kränkt*. CRANKS, n. plu. pains; aches. *Note*—This entry is closely connected with the preceding. The opposite meaning of *crank*—viz., 'sick' and 'healthy'—may be explained from its primary meaning, 'the unsteady movements of a ship, especially when unballasted.' Lightness, giddiness, and unsteady movements are characteristics of sickness, just as 'light-headedness' and a 'never do I care' are characteristics in the joyous unrestrained movements of the young in health.

CRANK, in Machinery: arm or bend on an axle or shaft, which may be driven by a connecting-rod or by the hand, its use being to convert an alternating straight motion into a continuous revolution. A crank may have part of the shaft on both sides, so that one rod, S, may drive two wheels, W, W, as in the fig. There are two positions in a C, in which the connecting-rod exercises no power whatever—viz., when the arm of the crank, C, is parallel to the connecting-rod, as in the fig., and again when the crank is at the opposite point of its course. A push or pull of the rod in such circumstances can only press the shaft against its bearings. The effect is greatest when the rod and the crank-arm are at right angles, and it decreases gradually on both sides of that position, until at the top and bottom it is reduced to nothing. In order to carry the C. over these *dead points*, as they are called, a fly-wheel is fixed on the shaft; this receives part of the force of the rod while at its best, acts as a reservoir, and by its stored-up momentum carries the shaft round when the rod is powerless.





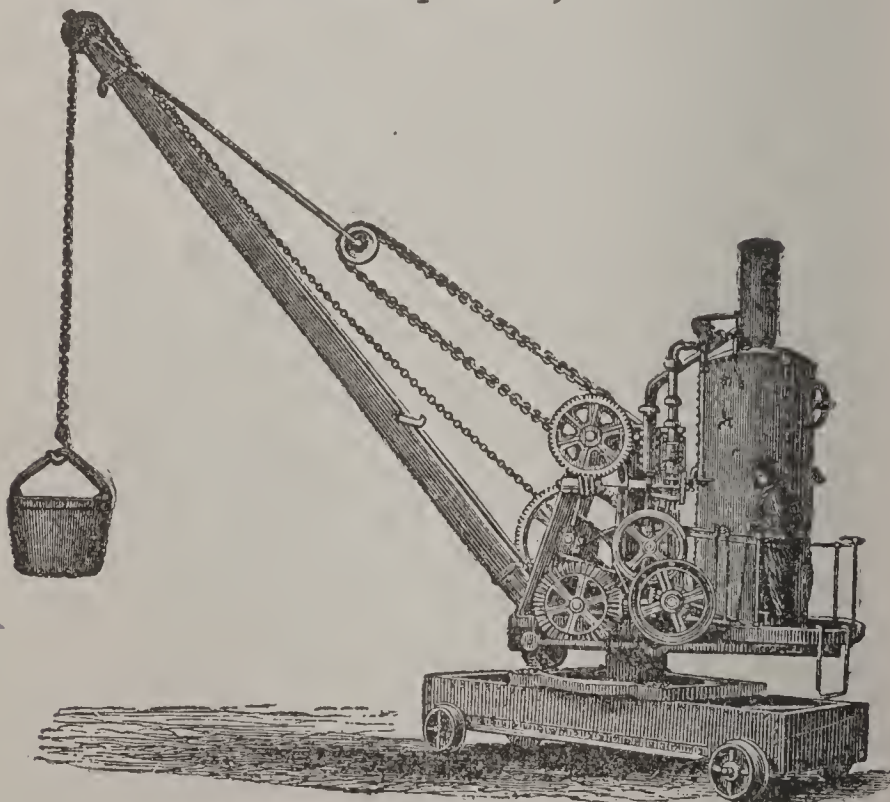
Slender Spider-crab (*Stenorhynchus tenuirostris*).



Cracowes, from
the Harleian MS.



Crowned Crane (*Balearica pavonina*).



Crane.

CRANMER.

CRANMER, *krăn'mér*, THOMAS: 1489, July 2—1556, Mar. 21; b. Aslacton, county of Nottingham: one of the chief reformers of the English Church, first Protestant Archbishop of Canterbury. He was descended from an old Norman family, said to have come into England with William the Conqueror. In his 14th year, he went to Jesus College, Cambridge, of which he was elected a fellow 1510. He devoted himself diligently to the study of the learned languages, and of Scripture. His mind seems to have been early interested in the writings of Erasmus, Luther, and Le Fevre, and especially in their interpretations of Scripture. In his 23d year, he married, and so lost his fellowship; but his wife dying about a year after marriage, he was restored to it by his college. In 1523, he took his degree D.D., and was appointed lecturer on theology. In 1528, during the prevalence of the sweating sickness in Cambridge, he retired with two pupils to Waltham Abbey: and Henry VIII., in company with Gardiner and Fox, afterward bishops of Winchester and Hereford, happening to be in the neighborhood, the event proved a turning-point in the life of Cranmer. The king was then seriously concerned about his divorce from Catharine of Aragon; and Cranmer, in conversation on the subject with Gardiner and Fox, suggested that the question should be 'tried according to the word of God.' Fox having mentioned this suggestion to the king, Henry was greatly pleased, and 'swore by the mother of God, that man hath the right sow by the ear.' From this time, Henry never lost sight of Cranmer. He was asked to reduce his suggestion to writing, and to have it submitted to the European universities. After this he was appointed archdeacon of Taunton, and one of the royal chaplains. He was also sent to Rome on a special embassy about the divorce, but met little success. Subsequently, he was dispatched to the emperor on the same errand, and while in Germany, 1532, he married a second time, a niece of the German divine, Osiander. Shortly afterward, on the death of Abp. Warham, he was recalled to fill the vacant see. Under his auspices, Henry's divorce was speedily carried through, and C. married the king to Anne Boleyn 1533, May 28. In Anne's subsequent disgrace, and again, in the affair of Anne of Cleves, C. took a part not creditable to him. His position was no doubt difficult; but his character was naturally pliable and timid, rather than resolved and consistent. The same spirit characterizes the measures of religious reform promoted by him. On one hand, he joined actively with Henry in restricting the power of the pope, and in suppressing the monasteries; but, on the other hand, he was no less active in persecuting men like Frith, Forrest, and others, who, on matters of religious faith, were disposed to advance further than himself or the king. He did what he could, however, to resist the reactionary movement in 1539, and which is known by the institution of the 'Six Articles.' He was also instrumental in promoting the translation and circulation of the Scriptures. On Henry VIII.'s death,

CRANMER.

Cranmer was appointed one of the regents of the kingdom, and with Latimer and others, largely contributed to the advance of the Protestant cause during the reign of Edward. He assisted in the compilation of the Service-book and the Articles of Religion. The latter are said to have been chiefly composed by him. He was also the author of four of the Homilies.

On the accession of Mary, he was committed to the Tower with Latimer and Ridley. In 1554, Mar., they were removed to Oxford, and confined there in the common prison, called the Bocardo. Latimer and Ridley bore their cruel fate with magnanimous courage; but the spirit and principles of C. temporarily gave way under the severity of his sufferings. He was induced, in the hope of saving his life, to sign no fewer than six recantations; but his enemies were determined to be satisfied by nothing short of his death; and he suffered martyrdom, as his fellow-reformers had done, opposite Baliol College. His courage returned at the end; and he died protesting his repentance for his unworthy weakness in changing his faith, and showing an unexpected fortitude in the midst of the flames.

CRANNOGS.

CRANNOGS, n. *krän'nogs* [Irish]: name in Ireland and in Scotland for the fortified islands in lakes which were in common use as dwelling places and places of refuge among the Celtic inhabitants. The etymology of the word (sometimes written *crannoge*) is uncertain, but it is believed to refer to the timber which was employed either in the fortification of the island, or in the construction of the houses upon it.

The earliest notice of such lake-dwellings which has been observed, is in the pages of Herodotus (book v. chap. 16). Writing of the Persian invasion of Thrace and Macedonia under Darius—about 500 years before the Christian era, and less than 100 years before his own death—he relates how the satrap Megabazus, warring against the Pæonians, led certain tribes of them captive into Asia, but failed to conquer those who inhabited Lake Prasias. 'He sought, indeed,' says the historian, 'to subdue the dwellers upon the lake, but could not effect his purpose. Their manner of living is the following: Platforms supported upon tall piles, stand in the middle of the lake, which are approached from the land by a single narrow bridge. At the first, the piles which bear up the platforms were fixed in their places by the whole body of the citizens; but since that time the custom which has prevailed about fixing them is this: They are brought from a hill called Orbelus, and every man drives in three for each wife that he marries. Now, the men have all many wives apiece, and this is the way in which they live. Each has his own hut, wherein he dwells, upon one of the platforms, and each has also a trap-door giving access to the lake beneath; and their wont is to tie their baby-children by the foot with a string, to save them from rolling into the water. They feed their horses and their other beasts upon fish, which abound in the lake to such a degree, that a man has only to open his trap-door, and to let down a basket by a rope into the water, and then to wait a very short time, when he draws it up quite full of them. The fish are of two kinds, which they call the *paprax* and the *tilon*.' The Lake Prasias of the Father of History seems to be the modern Lake Takinos, on the Strymon or Kara-su, a river which, rising on the borders of Bulgaria, flows through s. Roumelia, and, after expending its waters into a lake, falls into the Gulf of Contessa. The fish named by Herodotus have not been identified by naturalists; Lake Takinos abounds in carp, tench, and eels.

The island-dwellings of Lake Prasias drew comparatively little attention until archeologists, quite recently, found the remains of similar habitations in other parts of Europe. The first discovery was made in Ireland, 1839, by W. R. Wilde, one of the secretaries of the Royal Irish Academy. The small lake of Lagore, near Dunshaughlin, county Meath, having been drained, a circular mound, which had been an island in its waters, was observed to be thickly strewed with bones. As these were to be carted away for manure, it was found to be an artificial structure. Its circumference, measuring 520 ft., was formed by upright

piles of oak about 7 ft. long, mortised into oak planks laid flat upon the marl and sand at the bottom of the lake. The upright piles were tied together by cross-beams, and the space which they inclosed was divided into compartments by oak-beams, some of which had grooves, so as to allow panels to be driven down between them. The compartments thus formed were filled with bones and black peaty earth. Portions of a second tier of upright piles were observed rising from the first tier. The bones were ascertained to be those of several varieties of oxen, of swine, deer, goats, sheep, dogs, foxes, horses, and asses. With them were found a vast number of weapons, ornaments, and utensils, of stone, bone, wood, bronze, and iron; such as swords, knives, spears, javelins, daggers, whetstones, querns (or hand-mills), beads, pins, brooches, combs, horse-trappings, shears, chains, axes, pots, and bowls. On reference to the ancient annals, in which Ireland is so rich, it was seen that, in A.D. 848, a hostile Irish chief 'plundered the island of Loch Gabhor [as Lagore was then written], and afterward burned it, so that it was level with the ground;' and that again, in 933, 'the island of Loch Gabhor was pulled down' by the piratical Norsemen.

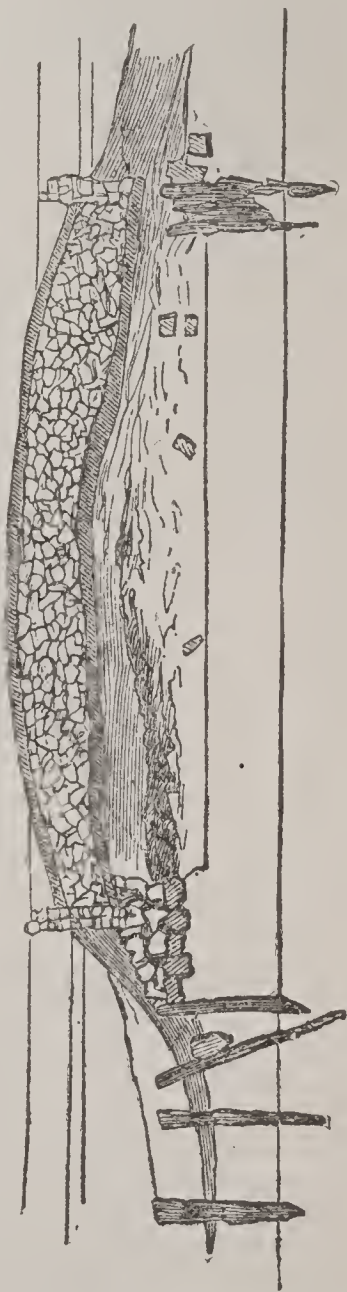
Mr. Wilde's discovery at Lagore was followed by other discoveries of the same kind elsewhere in Ireland, so that in 1857 the existence of about 50 C. had been ascertained; and every succeeding year has been an increase. They show several varieties of construction. The island at Lagore is a type of the purely artificial crannog. But most frequently the crannog was partly natural. An islet just level with the water, was raised artificially a foot or two above it. An islet too small to be a convenient habitation, or too easy of landing to be a place of defense, had its area artificially enlarged, or its banks artificially strengthened, generally by piles or stockades, occasionally by heaps of stones. The space thus inclosed is generally a circle of from 60 to 80 ft. in diameter; but in some cases the inclosed space is larger, and of an oval shape. The piles are usually of oak, mostly young trees, from four to nine inches broad, still bearing marks of the hatchet; usually a single row has been considered enough, but there are instances of two, and even of three rows. It seems that originally the piles had risen several ft. above the water, and it has been supposed that they were interlaced with branches placed horizontally, so as to form a screen or breastwork. The area within the stockade is sometimes wholly or partially covered with a layer of round logs, from four to six ft. long, having stones, clay, or gravel above them. Fragments of oak-framing, with mortises and cheeks cut in them, have been found within the piles. In almost every instance, a few flat stones, apparently serving as a hearth, have been observed near the middle of the inclosure: in several C., two or three hearths have been met with. In some cases, a causeway leads from the island to the mainland; but in general the crannog was to be reached only by boat, and scarcely any crannog has been discovered without the remains of a primitive canoe, hollowed out of the trunk of

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an oak, beside it. In at least one crannog, a pier or jetty projected from the island; it was a double row of piles and stretchers, running parallel to each other at a distance of about eight ft., and supporting a platform of logs. On almost every crannog one or two querns (q v.) have been found, with bones of oxen, deer, goats, and swine, horns of cattle, deer, sheep, and goats, boars' tusks, and sharpening stones; fragments of pottery, and articles of stone, bone, horn, wood, glass, copper, bronze, brass, and iron, are of somewhat rarer occurrence. Many of the C. had been submerged by the gradual rise of the lakes in which they stood, so that their existence became known only as the great drainage-works of late years reduced the waters to their old level.

The accompanying woodcut shows a section (scale of 1 inch to 20 ft.) of the crannog in Ardakillin Lough, near Stokestown, county Roscommon. The uppermost line marks the highest level of the waters of the lake; the middle line, the common winter level; the third line, the common summer level. The upper surface of the crannog was formed of a layer of loose stones, surrounded by a wall, partly supported by piles. The stones rested on the natural clay, peat, and boulders of the island, in digging through which strata of ashes, bones, and logs of timber were met. The stockades were of oak; the oblique or slanting stockade shown in the woodcut represents a girdle of sheet-piling which quite encircled the crannog.

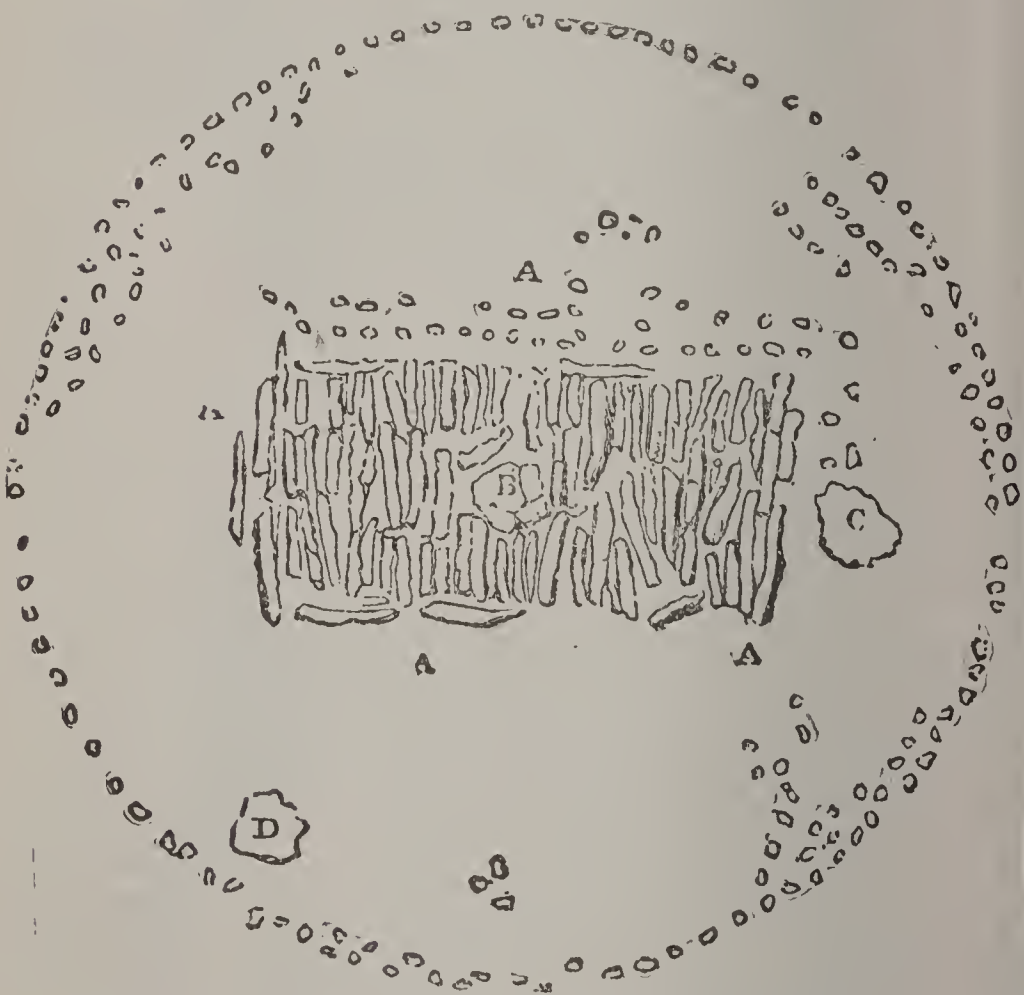
The woodcut on the following page gives a ground-plan (scale of 1 inch to 20 ft.) of one of two C. in Drumaleague Lough, county Leitrim. The circle within the ring of stockades is 60 ft. in diameter; in some places there are two, in others three rows of stockades; and within this outer ring, there are groups of piles, some of them arranged apparently for some special purpose. The oblong space in the middle, marked A, is covered by a rude platform of round logs, chiefly of alder, four to six ft. in length; it was probably the floor of the log-house, which was the chief or only dwelling-place on the islet. B shows where the hearth stood—a collection of stones, still retaining traces of fire; C marks a heap of stiff clay; D, the root of a large tree nearly buried in the peat, the surface of the wood being



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bevelled off with a hatchet, so as to form a sort of table, under which was found a heap of bones, apparently of deer and swine.

The Irish annals, it has been seen, make mention of C. as early as the 9th c., and they figure in history till the middle of the 17th c. The crannog of Lough Lynch, Antrim, is shown as the birthplace of Colkitto, a chief who figured in Montrose's wars, and has found a place in one of Milton's sonnets. The crannog of Roughan Lake, near Dungannon, was the last retreat of Sir Phelim O'Neil, 1641. Two years later, there is record of an attempt to flood the crannog of Loughinsholin, county Londonderry, by turning a stream into the lake, and damming up its outlet. This attempt failed; but in 1645 the garrison were compelled by hunger to give the crannog to the flames, and make their escape. In 1567, an agent of the English govt., who was asked what



Ground-plan of Crannog in Drumaleague Lough.

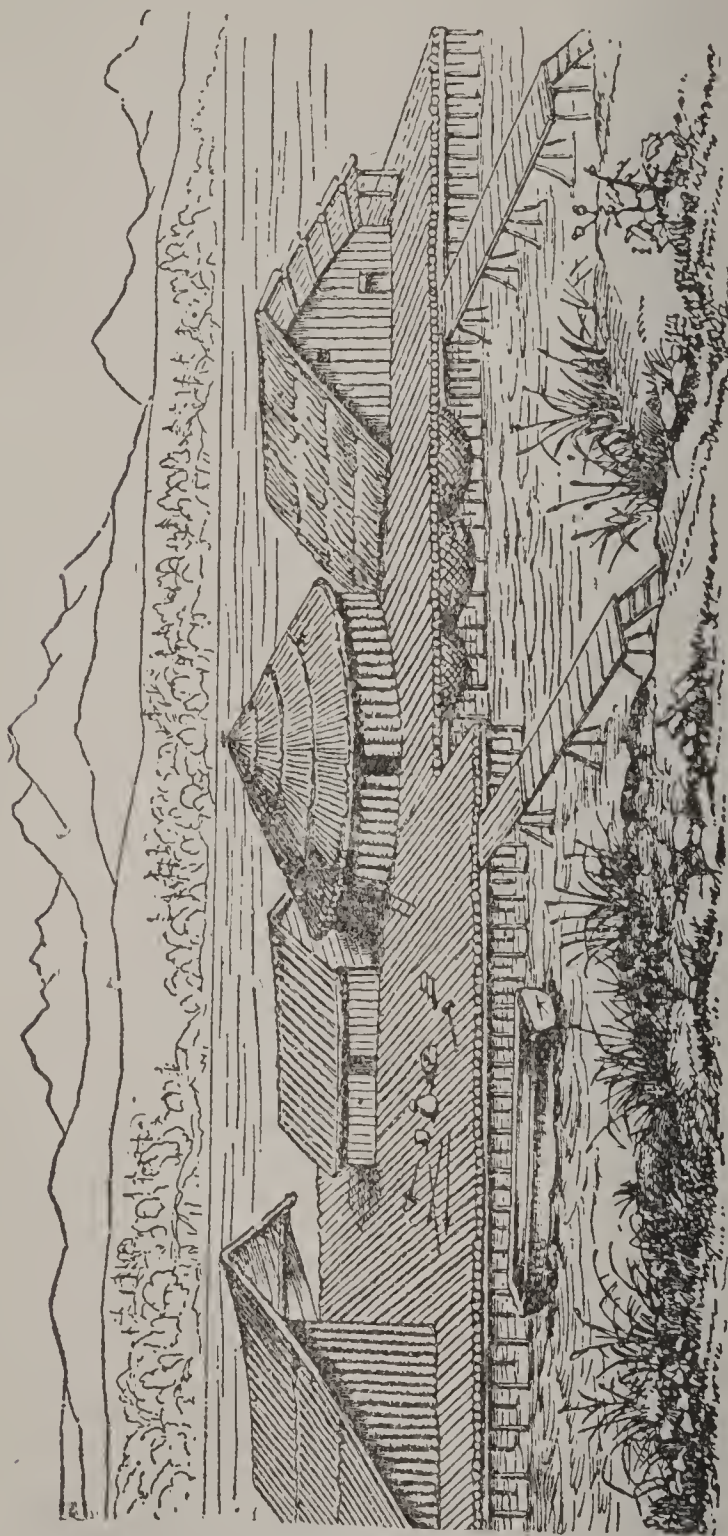
were the castles of the O'Neil, wrote in reply: 'For castles, he trusteth no point thereunto for his safety, as appeareth by the razing of the strongest castles of all his countries; and that fortification that he only dependeth upon is in certain fresh-water lochs in his country, which from the sea there comes neither ship nor boat to approach them: it is thought that there, in the said fortified islands, lieth all his plate (which is much), and money, prisoners, and gages [i.e.,

hostages]; which islands have in wars heretofore been attempted, and now of late again by the lord-deputy there, Sir Harry Sydney, which for want of means for safe conduct upon the water hath not prevailed.'

While archeologists were still exploring the C. of Ireland, structures of similar kind were discovered in the heart of the European continent. The winter of 1853-4 was one of the driest that had been seen in Switzerland, and the lakes sank to a lower level than was ever known before. The inhabitants of the village of Meilen, on the Lake of Zurich, took advantage of this unusual subsidence to reclaim a piece of land from the lake. As the work went on, a learned antiquary, Dr. Ferdinand Keller, discovered the remains of rows of deeply driven piles, and, imbedded in the mud around them, found heaps of primitive weapons, tools, and utensils, made of stone and bone. Closer examination satisfied him that the piles had supported a platform; that on this platform huts had been raised; and that after being thus occupied, probably for centuries, the structure had been destroyed by fire. The discovery in the Lake of Zurich of these *Keltische Pfahlbauten* (Celtic pile-buildings), as Dr. Keller called them—*habitations lacustres* (lake dwellings), as other Swiss archeologists have termed them—was followed almost immediately by the discovery of erections of the same kind in other lakes of Switzerland. No fewer than 30 to 40 have been found in the upper and lower lakes of Constance; as many as 30 in the Lake of Geneva; more than 20 in the Lake of Neuchâtel; 10 in the Lake of Bienné; besides others in the deep peat-bogs which surround the hill of Chamblon, in the Vallée de l'Orbe, and in the lakes of Morat, Inkwyll near Soleure, Moosseedorf near Bern, Pfaffikon near Zurich, Wauwyll near Lucerne, and Nussbaumen in the canton of Thurgau. The site chosen for these lake-dwellings was generally a sunny and sheltered bay, with a gently shelving bottom of mud or clay. The piles, from four to ten inches in diameter, were rudely fashioned of whatever wood was at hand, oak, fir, ash, beech, birch, cherry, or apple. They were driven in a depth of not less than six or seven ft. of water, at a distance of from 100 to 300 ft. from the shore. They were ranged generally from one to two ft. apart, in the form of a narrow parallelogram, having its longest side in a line with the edge of the lake. At Wangen, on the lower lake of Constance, the piles, 30,000 to 40,000 in number, extend about 700 paces in length, and about 120 in breadth. At Morges, on the Lake of Geneva, the piles stretch 1,200 ft. in length, by 120 ft. in width, so that they would have supported a platform with an area of about 18,000 ft., sufficiently capacious, according to the calculations of M. Frederic Troyon of Lausanne, to contain 316 huts, with a population of 1,264 persons. The huts seem to have been mostly circular in shape, 10 to 15 ft. in diameter; they were of wattles, plastered with clay, masses of which hardened by fire, still bearing the marks of the wattles which it had received when wet and soft. have been recovered from the beds of the lakes. In at least one instance, the remains of a bridge or gangway, leading

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from the platform to the shore, have been discovered. Many small boats, hollowed out of the trunks of trees, have been found; and one large vessel of the same kind, 50 ft. long and $3\frac{1}{2}$ ft. wide, has been observed at the bottom of the Lake of



Crannog restored.

Bienne. The woodcut on this page shows the *pfahlbauten* as the Swiss archeologists believe them to have been in their original state.

The lake-dwellings of Switzerland have obviously much more resemblance to those of Lake Prasias, described by Herodotus, than to the C. of Ireland. But the Swiss can

show specimens also of the Irish type. At Nidau Steinberg, in the Lake of Bienné, there is an artificial mound of stones, resting on horizontal planks, and encircled by a row of upright piles. It is now submerged, but when—as the Swiss believe—the lake stood at a lower level, it must have been an island. At Moringen, in the same lake, there is another pile-building, inclosing a mound of stones which has an area of about half an acre. A canoe which had been used in its construction lies with its load of stones at the bottom of the lake. Structures still more nearly resembling the Irish C. have been found in the lakes of Inkwyll, Nussbaumen, and Wauwyl.

History and tradition alike are silent as to the pile-buildings of the Swiss lakes. That they belong to a remote age, will readily be granted, even by those who may hesitate to accept 'the stone, bronze, and iron periods' on which the Swiss antiquary rests their claims to 'pre-historic' antiquity; or who may question the grounds on which the Swiss naturalist assigns them to the 15th c. before Christ. Of the remains found in them, many appear to be those of a rude people—such as spear-points, arrow-heads, axes, chisels, knives, and even small saws, of flint and stone; arrow-heads, daggers, hammers, bodkins, needles, pins, rings, bracelets, necklaces, of bone or horn. Articles of bronze, some of them richly ornamented, are of common occurrence; and swords and other objects of iron are found in considerable numbers. Some of the Swiss archeologists seem at one time to have thought that the piles surrounded by stone and bone implements showed marks of greater age than the piles surrounded by bronze implements. It is now admitted, however, that both stone and bronze objects, and bronze and iron objects, are to be found in the same group of piles. It is to be remarked, too, that many of the objects of stone, bone, horn, bronze, and iron, are fashioned of the same shape, and for the same use, differing only in the substance of which they are made. Whoever the dwellers on the *pfahlbauten* were, their remains show that they grew wheat and barley; that they ate the flesh of the ox, the goat, the sheep, and the pig; that among the beasts of the chase which they hunted was the now extinct species of the aurochs (see BISON); that they had horses, dogs, and cats; that they had apples, pears, wild-plums, and wood-rasberries; that they baked pottery; that their women plied the distaff and knitted; that they made hempen mats; and that they wove linen cloths.

Hitherto, archeologists knew of lake-dwellings as existing only in Ireland and Switzerland; but in 1857, Joseph Robertson read a paper to the Soc. of Scottish Antiquaries, proving their existence in almost every province of Scotland. He not only brought to light abt. 50 specimens, but was able to show from records that they were known in Scotland by the same name of C. as in Ireland. The resemblance between the Scottish and Irish types seems, indeed, complete. Every variety of structure observed in the one country is to be found in the other, from the purely artificial island, framed of oak-beams, mortised together,

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to the natural island, artificially fortified or enlarged by girdles of oak-piles or ramparts of loose stones; from the island with a pier projecting from its side, to the island communicating with the mainland by a causeway. If there be any difference between the C. of the two countries, it is that the number of C. constructed altogether of stones is greater in Scotland than in Ireland—a difference readily explained by the difference in physical circumstances. Among the more remarkable of the Scotch C. is that in the loch of Forfar, which bears the name of St. Margaret, the queen of King Malcolm Canmore, who died 1097. It is chiefly natural, but has been strengthened by piles and stones, and the care taken to preserve this artificial barrier is attested by a record of the year 1508. Another crannog—that of Lochindorb, in Moray—was visited by King Edward I. of England 1303, about which time it was fortified by a castle of such mark that in 1336, King Edward III. of England led an army to its relief through the mountain-passes of Athol and Badenoch. A third crannog—that of Loch Cannor or Kinord, in Aberdeenshire—appears in history in 1335, had King James IV. for its guest 1506, and continued a place of strength until 1648, when the estates of parliament ordered its fortifications to be destroyed. It has an area of about an acre, and owes little or nothing to art beyond a rampart of stones and a row of piles. In the same lake is another and much smaller crannog, wholly artificial. Forty years after the dismantling of the crannog of Loch Cannor, the crannog of Lochan Eilean, in Strathspey, is spoken of as ‘useful to the country in time of troubles or wars, for the people put in their goods and children here, and it is easily defended.’ Canoes hollowed out of the trunks of oaks have been found beside the Scotch, as beside the Irish crannogs. Bronze vessels, apparently for kitchen purposes, are also of frequent occurrence. Deer’s horns, boars’ tusks, and the bones of domestic animals, have been discovered. In 1880 abt, 35 Scottish C. were known.

Since 1857, the remains of lake-dwellings have been discovered in Savoy, in Upper Italy, Hanover, Prussia, and Denmark. Less certain traces have been found in England, in draining a mere at Wretham Hall, near Thetford. Norfolk. The savages of Borneo and New Guinea still live on the water, in huts perched upon platforms supported by piles; and wooden houses raised upon piles are common in Burmah and Siam, on the creeks and rivers of the Strait of Malacca, and it is believed elsewhere in Asia. A bas-relief from the palace of Sennacherib, engraved in Mr. Layard’s *Monuments of Nineveh*, represents what seem to be artificial islands, formed apparently by wattling together the tall reeds of the marshes on the lower part of the Euphrates.

The C. of Ireland are described in the *Proceedings of the Royal Irish Acad.*, i., v., vii.; Wilde’s *Catalogue of the Museum of the Royal Irish Acad.*; *The Archeological Journal*, iii., vi.; Digby Wyatt’s *Observations on the Early Habitations of the Irish* (Lond. 1858); *The Ulster Journal of Archeology*,

No. 26; *Proceedings of the Kilkenny Archeological Soc.*, No. 27. The chief works on the lake-dwellings of Switzerland are Dr. Ferdinand Keller's three papers on *Pfahlbauten*, and Dr. L. Rutimeyer's *Untersuchung der Thierreste aus den Pfahlbauten*, all published in the *Mittheilungen der Antiquarischen Gesellschaft in Zurich*, band ix., xii., xiii.; M. Frederic Troyon's *Habitations Lacustres de la Suisse* (Lausanne 1857); his *Ossements et Antiquités du Lac de Moosedorf*, in the *Bibliothèque Universelle de Genève*, 1857, May; his *Details of Discoveries at the Lake Habitations of Switzerland*, in the *Ulster Journal of Archeology*, No. 29; M.M. Alb. Jahn and J. Uhlmann's *Die Pfahlbau-Alterthümer von Moosedorf* (Bern 1857); and M.A. Morlot's *Etudes Géologico-Archéologiques en Danemark et en Suisse*, in the *Bulletin de la Société Vaudoise des Sciences Naturelles*, t. vi. (Lausanne 1860). The Scottish C. are described in the *Proceedings of the Soc. of Antiquaries of Scotland*, iii., and in Dr. Munro's *Ancient Scottish Lake-dwellings or Crannogs* (1882). On pile-buildings generally, reference may be made to Wylie's paper *On Lake-dwellings of the Early Periods*, in the *Archæologia*, xxxviii., and to papers in the *Gentleman's Magazine*, 1860, 1.

CRANNY, n. *krän'nĭ* [F. *cran*, a notch, a mark: Bav. *krinnen*; Ger. *krinne*, a notch, a rent]: an open crack; a chin; a cleft; a crevice; a retired or secret place. CRAN'-NIED, a. *-nĭd*, full of chinks.

CRANTS, n. plu. *kränts* [Ger. *krantz*; Sw. *krans*, a crown, a garland]: in *Shakes.*, the chaplet or wreath carried at a maiden's funeral, and placed on her grave.

CRANSTON: township, Providence co., R. I.; 4 m. s. of Providence; on the Providence Hartford and Fishkill railroad. It contains several thriving villages, and is noted as the seat of important print-works. There is extensive manufacture of cotton and of machinery. Pop. (1880) 5,940; (1890) 8,099; (1900) 13,343.

CRAPE, n. *kräp* [F. *crêpe*, a tissue of fine silk twisted to form a series of minute wrinkles; *crespe*, curled—from L. *crispus*, crisped, curled]: thin fabric, of raw silk, which has been tightly twisted, without removing the viscous matter with which it is covered when spun by the worm. It is simply woven as a thin gauze, then dressed with a thick solution of gum, which in drying causes the threads partially to untwist, and thus gives a wrinkled and rough appearance to the fabric. It is frequently dyed black, for mourning apparel.

CRAPLE, n. *kräp'l* [Ger. *krappeln*, to seize (see GRAPPLE and GRAB)]: in *OE.*, a claw.

CRAPNEL, n. *kräp'nĕl*: see GRAPNEL.

CRAPULOUS, a. *kräp'ũ-lūs* [L. *crapulōsus*, drunken—from *crapula*, excessive drinking, a surfeit]: excessively drunk; sick from indulgence in liquor. CRAPULA, n. *kräp'ũ-lũ*, the feeling of surfeit and sickness in the morning after a night of hard drinking.

CRAS-CROM: ancient and rude instrument of agriculture in the Highlands, consisting, as its name in Gaelic im-

CRASH—CRASSULA.

ports, of a crooked stick shod with iron, with a small projecting bar to rest the foot upon.

CRASH, n. *krāsh* [an imitation of the noise made by a number of things breaking—another form of *clash*: Sw. *krasa*; Dan. *krase*, to crackle]: a noise as of things falling and breaking at once; an unbleached and unglazed linen fabric without twill or pattern; a violent mixed noise: V. to give out a confused rough noise. **CRASH'ING**, imp. **CRASHED**, pp. *krāsht*.

CRASHAW, *krash'aw*, **RICHARD**: b. London; son of a clergyman in the English Church; d. abt. 1650: a poet whose devotional strains exhibit imagination of a high order, with great copiousness and beauty of language. He was educated at the Charter-house, and at Cambridge, where he obtained a fellowship 1637. He entered the ministry about 1641, it is said, and became an earnest and eloquent preacher; but in 1644 he was ejected from his fellowship by the parliament, for refusing to take the Covenant. He went to France, adopted the Rom. Cath. faith, and suffered great pecuniary distress, until, through Cowley's influence, he was introduced to Queen Henrietta Maria, who recommended him to certain dignitaries of the Church in Italy. He soon obtained a secretaryship to one of the cardinals at Rome, and was made a canon of the church of Loretto. In this office he died. In 1634, C. published a volume of Latin poems, in which appeared the famous line, sometimes attributed to Dryden and others, relative to the miracle of the water being turned into wine,

‘*Nympha pudica Deum vidit et erubuit.*
‘The modest water saw its God and blushed.’

In 1646 appeared his *Steps to the Temple*, *The Delights of the Muses*, and *Carmen Deo Nostro*, in which there is much fervid poetry. C. greatly resembles George Herbert in his cast of thought, and is not inferior to him in richness of fancy, though with more exaggeration and conceit.

CRASIS, n. *krās'is* [Gr. *krāsis*, a mixture]: healthy constitution of the blood and humors; in *gram.*, the union of two vowels into one syllable.

CRASPEDA, n. plu. *krās'pě-dă* [Gr. *kras'pědon*, border or tassel]: the long cords containing thread cells, which are attached to the free margins of the mesenteries of a sea-anemone.

CRASS. a. *krās* [F. *crasse*—from L. *crassus*, thick, dense]: thick; dense; coarse or gross: N. a large species of sea-anemone. **CRAS'SITUDE**, n. *-sī-tūd*, grossness; thickness; stupidity: also **CRASS'NESS**, n.

CRASSAMEN'TUM, n. *krās'să-měn'tŭm*, or **CRAS'SA-MENT**, n., and **CRAS'SIMENT**, n. [L. *crassamen'tum*, dregs, grounds—from *crassus*, thick]: the clot of blood; dregs or sediment of a fluid.

CRASSATELLA, n. *krās-sa-tě'lla* [dim. of L. *crassus*, thick]: genus of mollusks, family *Cyprinidæ*.

CRASSULA, n. *krās'sŭ-la* [dim. of L. *crassus*, thick.

CRASSULACEÆ—CRASSUS.

Named from the thick fleshy leaves and stems]: genus of hypogynous exogens, typical of the order *Crassulaceæ* (q.v.). CRASSULEA, *krās-sū'lē-æ*, tribe of *Crassulaceæ*.

CRASSULACEÆ, *krās-ū-lā'sē-ē*: nat. ord. of exogenous plants, some shrubby, some herbaceous, all remarkable for succulency. About 300 species are known, among which are house-leeks, stone-crops, rose-root, etc. They are widely distributed over the world, but s. Africa particularly abounds in them. Most of them grow in dry places, and derive their nourishment from the air rather than from the soil, their roots seeming intended chiefly to fix them to the spot. Many of them are cultivated in green-houses, more for their grotesque forms than the beauty of their flowers. Some are refrigerant, and one or two are even used as food; others, on account of the tannin which they contain, are astringent; some are acrid.

CRASSUS, *krās'us*: surname of several old Roman families, among which that of the Licinii was most remarkable.

CRASSUS, LUCIUS LICINIUS: B.C. 140–91: the best orator of his age, distinguished for his wit and for his rectitude in the capacity of proconsul. In B.C. 95 he was elected consul, with Quintus Mucius Scævola (who had been his colleague in all his previous offices). During their consulship was enacted the *Lex Licinia Mucia de Civibus regundis*, banishing from Rome all who had not the full rights of citizens. This embittered the feelings of foreigners toward Rome, and partly led to the Social War. As censor, C., B.C. 92, closed all the schools of the rhetors—asserting that they had exercised a bad influence on the minds of young men. C. died in consequence of excitement attending a debate in the senate.

CRASSUS, MARCUS LICINIUS, Roman triumvir: abt. B.C. 115—abt. 57. His father and brother suffered death from the party of Marius, B.C. 81, and he himself—though young—was subjected to a jealous and dangerous surveillance. In B.C. 85, to escape from this, he went to Spain. He afterward joined Sulla, B.C. 83, and distinguished himself in the battle against the Samnites at the gates of Rome. As prætor he crushed the Servile revolt, by the conquest of Spartacus at the battle of Lucania B.C. 71, and in the following year was made consul with Pompey, a colleague whom he hated. On the other hand, Cæsar valued the friendship of C., the most wealthy of Roman citizens. During his consulate, C. gave a feast to the people which was spread on 10,000 tables, and distributed a provision of corn for three months. Plutarch estimates the wealth of C. at more than 7,000 talents, and Pliny states that the lands of C. were worth 8,000 talents. About B.C. 60 Cæsar, Pompey, and C. entered into a private arrangement for their common benefit: this paction is known as the first *triumvirate*: see CÆSAR. In B.C. 57, as consul with Pompey, he gained the province of Syria, and professed to make preparations of war against the Parthians; but the acquisition of more wealth seems to have been his main

CRATÆGUS—CRATE.

object, and this he effected by plundering the towns and temples in Syria. At length, however, he set out, but was misguided by a treacherous Arab, and utterly defeated at the river Bileeha by the Parthians. C. now retreated to the town of Carrhæ, intending to pass into Armenia; but was beguiled into a conference with the Parthian general, Surenas, and was slain at the appointed place of meeting. His quæstor, Cassius, with 500 cavalry, escaped into Syria; but the remaining Romans were scattered and made prisoners, or put to death.

CRATÆGUS, *kra-tē'gūs*: genus of plants of the nat. ord. *Rosaceæ*, sub-order *Pomeæ*, very nearly allied to *Mespilus* (Medlar) and *Pyrus* (Pear, Apple, etc.), but distinguished by the acute calycine segments, and by the round or oval fruit, closed at the apex, and concealing the upper end of the bony cells. The species are numerous, natives of the temperate parts of the n. hemisphere, and in general have flowers in beautiful terminal corymbs. They all are large shrubs or small trees, more or less spiny, whence the name THORN has been very generally applied to them. The only native of Britain is the common HAWTHORN (q. v.), (*C. oxyacantha*). Most of the species resemble it considerably in habit, size, form of leaf, etc. A number of them are now frequent in plantations and shrubberies in Britain, of which perhaps the most common is the COCK'S-SPUR THORN (*C. crus-galli*), native of N. America from Canada to Carolina. Its leaves are not lobed; its fruit rather larger than that of the hawthorn. The AZAROLE (*C. Azarolus*), native of the south of Europe, and the ARONIA (*C. Aronia*), native of the Levant, are occasionally cultivated for their fruit, which is about the size of the Siberian crab, and is used either for dessert or for pies. *C. Orientalis* (or *odoratissima*) and *C. tanacetifolia* also have fruit of considerable size. The latter is much eaten in Armenia. *C. Mexicana* has a large fruit, like a small apple, not eatable, but very ornamental. The wood of most of the species much resembles that of the hawthorn. It is common to graft the rarer species on the hawthorn.—*C. pyracantha* differs much in appearance from most of the genus; being a pretty evergreen shrub, with lanceolate crenate leaves, and rich clusters of red berries, which remain on it all winter; native of rocky places in the south of Europe and the Caucasus. It is often employed in Britain as an ornamental covering for walls, and is known as the PYRACANTHA.

CRATÆVA, n. *kra-tē'va* [after *Cratævus*, a Gr. botanist who lived about B.C. 430]: genus of hypogenous exogens, order *Capparidaceæ* (q. v.), tribe *Cappareæ*.

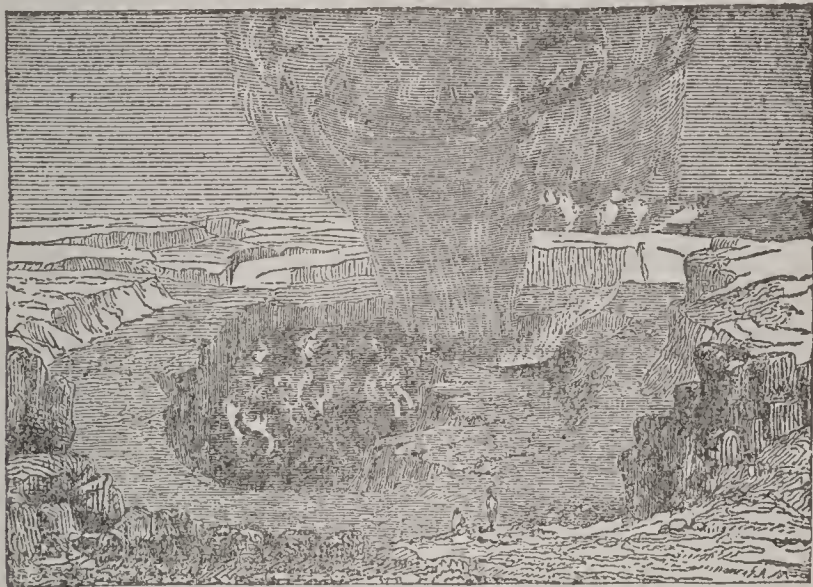
CRATCH, n. *kräch* [F. *creiche*; OF. *creche*; It. *craticcia*, a rack, a crib—from L. *cratēs*, a hurdle]: the open frame in which hay is put for cattle; a hurdle; a fold.

CRATE, n. *krāt* [L. *cratēs*, wicker or hurdle work; It. *crate*, a harrow: Dan. *krat*, copse: comp. Gael. *creatach*, a hurdle]: any open receptacle rudely formed of sticks or twigs; an open case formed of small bars or rods of wood in which glass, china, etc., may be packed for carriage; a hamper.

CRATER—CRATINUS.

CRATER, n. *krā'tēr* [L. *crater*; Gr. *kratēr*, a cup]: the mouth of a volcano, so called from its cup or bowl-shaped vent or aperture; a constellation of the s. hemisphere, called the *cup*. **CRATERIFORM**, a. *krā-tēr'ī-fawrm* [L. *forma*, a shape]. having the form of a crater—applied to hills whose summits present bowl-shaped depressions.

CRA'TER: central cup-shaped cavity in the summit of a volcano (q.v.), through which the lava, stones, scoria, etc.,



Crater of Kilauea in the island of Hawaii, Pacific Ocean: Depth about 1,500 ft.; circumference about 2 miles.

are for the most part ejected. These materials sometimes escape from immense rents in the sides of the volcano, as in the famous eruption of Hecla, 1783, when two enormous streams of lava poured from its side to the distance, the one of 40, the other of 50 miles. The volcanic materials, when they escape through a crater, are not always ejected through the old vent on the summit; some other portion of the mountain may yield more readily to the pressure from within, and thus one or more lateral craters be formed, which, however, increase in height from the accumulation of ejected materials, and eventually, if the eruption continues, overtop the former cone.

CRATINUS, *kra-tī'nūs*: Greek comic poet; b. about B.C. 519. Next to his younger contemporaries, Eupolis and Aristophanes, he is the most valuable representative of the Old Attic comedy. He changed its outward form considerably, and fought to add to its vigor and power. Before his time, the number of actors had been indefinite; he limited them to three. He was the first to make comedy pungent and personal. The habits, manners, institutions—in fact, the whole public and private life of the Athenians—were considered by C. a legitimate mark for censorious satire. The greatest men did not escape. Pericles, for instance, was frequently and fiercely abused. C.'s style was very metaphorical and ingenious. Of his 21 comedies, nine of which obtained the first prize in the public compe-

CRATIPPUS—CRAVEN.

titions, only some fragments remain, collected by Meineke in his *Fragmenta Comicorum Græcorum* (Berlin 1840).

A younger CRATINUS, contemporary of Plato, belonged to the school of the Middle Comedy.

CRATIPPUS, *kra-tîp'pūs*: Peripatetic philosopher, in the c. before Christ; b. Mitylene: contemporary of Cicero. He appears to have been held in the highest estimation by the great men of his age. Cicero calls him the prince of all the philosophers whom he had known. Pompey visited him after his defeat at Pharsalia, and received at his hands the consolations of philosophy; and Brutus went to Athens, to which city C. had latterly betaken himself, to listen to his prelections, even while making preparations to meet Octavius and Antony. Nothing that C. wrote has survived.

CRATOXYLON, n. *krăt-ox'î-lŏn* [Gr. *kratos*, strength; *xulon*, fire-wood, timber]: genus of hypogenous exogens, order *Hypericaceæ*, tribe *Elodeæ*.

CRAUNCH, or CRANCH, v. *kránsĥ* [Dut. *schransen*, to eat greedily—a word imitative of the noise]: to crush with the teeth; to chew with noise. CRAUNCH'ING, imp. CRAUNCHED, pp. *kránsĥt'*.

CRAVAT, n. *kră-văt'* [F. *cravate*, a neckcloth: formerly written *crabat*—said to have been introduced in 1636, and named after the *Crabats* or *Cravats*, as the *Croatians* were then called]: a neckcloth; a large necktie.

CRAVE, v. *krāv* [AS. *craflan*, to ask: Icel. *krefa* and *krefja*; to demand: W. *crefu*, to desire]: to ask earnestly; to ask humbly; to long for; to beg, entreat, or implore. CRA'VING, imp.: N. a vehement or urgent desire to obtain. CRAVED, pp. *krāvd*.—SYN. of 'crave': to ask; seek; beseech; solicit; request; supplicate; adjure; require; demand.

CRAVEN, n. *krā-vĕn* [OE. *cravand* or *cravant*, a coward—anciently the exclamation of the party overcome in single combat, when he yielded: prov. Eng. *cradant*; Scot. *crawd*, a coward]: a recreant; one cowardly base; a poltroon: ADJ. weak-hearted; spiritless; cowardly base: V. to make cowardly. CRA'VENLY, ad. *-lĭ*. Note.—*Cravand* or *cravant* is an OE. present part. equal to *craving*, from *crave*—that is, 'one begging for quarter or suing for mercy.'—See Skeat.

CRAVEN, *krā'vn*, ALFRED WINGATE: 1810, Oct. 20—1879, Mar. 29; b. Washington: civil engineer. He graduated at Columbia College 1829, studied civil engineering, and followed it with distinction till his death. He was largely employed in railroad construction and management in various parts of the country; but his most important work was in New York in connection with its sewerage, its supply of Croton water, and the improvement of Fourth avenue. From the organization of the Croton Water Board 1849 till 1868 he was its engineer, and planned and supervised the construction of the great works of that period. He was a founder, director many years, and pres. 1869–71 of the American Soc. of Civil Engineers.

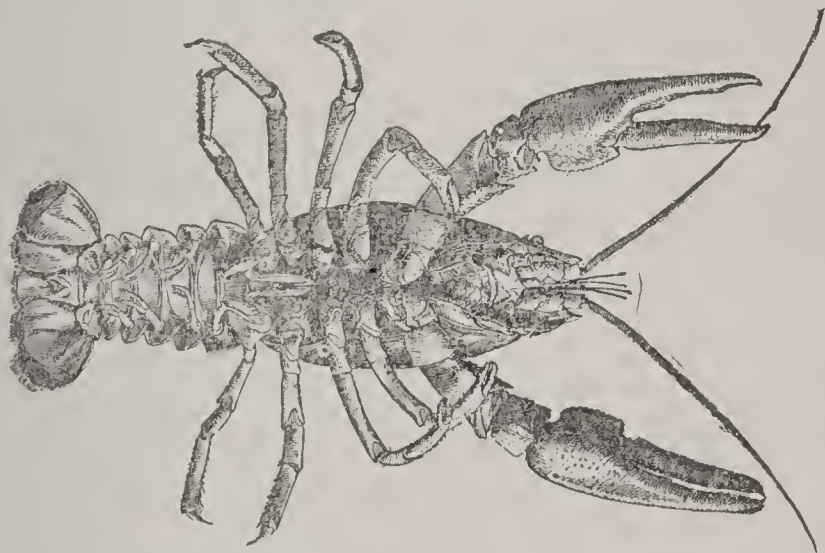
CRAVEN, THOMAS TINGEY, U.S.N.: 1808, Dec. 30—

CRAW—CRAW-FISH.

1887, Aug. 23; b. Portsmouth, N. H.; eldest son of Tunia C., U.S.N. He entered the navy as a midshipman 1822; served in the Pacific squadron 1823-28; was sailing-master of the *Erie*, W. India squadron, and was present at the capture of the pirate *Federal* 1828; was commissioned lieut. 1830; commanded Capt. Wilkes's flag-ship in the antarctic exploring expedition 1838; appointed commandant of midshipmen in the naval acad. 1850; promoted commander 1852, capt. 1861, commodore 1862, and rear-admiral 1866; and was given command of the Pacific squadron 1868. He was at one time in command of the Potomac flotilla, and at the capture of New Orleans was commander of the *Brooklyn*. During 1866-68 he was commandant of the Mare Island, Cal., navy yard.

CRAW, n. *kraw* [Dan. *kro*, the craw: Ger. *kragen*, the neck or throat: Dut. *kraeye*, the neck: Sw. *krafwa*, a craw]: the crop or first stomach of a bird.

CRAW-FISH, n. *kraw'fish*, or CRAYFISH, *krā'fish* [corruption of Eng. *creveys* or *crevish*—from O.H.G. *krebiz*; F. *écrevisse*; Dut. *krevisse*, a crawfish: Ger. *krebs*, a crab]: genus *Astacus* of Europe and the Pacific states: *Cambarus* of central and e. N. Amer. Crustaceans (q.v.) of order *Decapoda* (see CRAB), sub-order *Macroura* (i.e., long-tailed—characterized by the elongation of the abdomen, and its termination in a sort of fin composed of five pieces and expanded laterally); nearly allied to the lobster, from



Craw-fish (*Astacus fluviatilis*), half life-size.

which, however, it differs in being smaller, in inhabiting fresh water, and in some points of anatomy. Of the three European species *A. fluviatilis* (*nobilis* of Huxley) and *A. torrentium* are edible. Six species of *A.* are credited to our Pacific slope; and species-makers would have 32 species of the genus *Cambarus*, east of the Rocky Mts. Some live in streams, some burrow in prairie intervals. One or two species bore the levees of the lower Mississippi, and cause floods. The Milwaukee C. are most esteemed in New York, and, like the Montreal, turn red in boiling, unlike the early large ones from the Potomac.

CRAWFORD.

CRAWFORD, *kraw'ford*, FRANCIS MARION: novelist: 1854, Aug. 2—; b. in Italy; son of Thomas C., distinguished Amer. sculptor. He was educated partly in America and partly in Europe, attending the universities of Cambridge, Heidelberg, and Rome, and for two years edited a daily paper in India. He has resided mostly abroad. His novels show rare literary gifts, and have had great popularity. *Zoroaster* and *Marzio's Crucifix* were written in French as well as English, and were awarded a prize of 1,000 francs by the French Academy. His principal works include: *Mr. Isaacs* (1882); *Dr. Claudius* and *To Leeward* (1883); *A Roman Singer* and *An Amateur Politician* (1884); *Zoroaster* (1885); *A Tale of a Lonely Parish* and *Saracinesca* (1886), the latter dealing with Roman society in 1865 and since; *Marzio's Crucifix* (2 vols. 1887), the hero a silver-worker and socialist; *Paul Patoff* and *With the Immortals* (1888); *Sant' Ilario* (1889); *A Cigarette Maker's Romance* (1890); *The Witch of Prague* (1891); *The Three Fates* (1892); *Don Orsino* (1892); *Casa Braccio* (1895).

CRAWFORD, NATHANIEL MACON, D.D.: 1811, Mar. 22—1871, Oct. 27; b. Oglethorpe co., Ga.: educator. He graduated at the Univ. of Ga., 1829; studied law, but never practiced; was prof. of mathematics in Oglethorpe Univ. 1837-41; was licensed to preach 1843 and ordained 1844; served pastorates in Bapt. churches in Washington, Ga., and Charleston, S. C., 1845-6; was prof. of Biblical literature in Mercer Univ., Ga., 1847-54, and pres. 1854-57; chosen prof. of theol. in the Western Bapt. Theol. Seminary, Georgetown, Ky., 1857; was again pres. of Mercer Univ. 1858-65; and pres. of the Georgetown Seminary 1865-70. Dr. C. was also elected pres. of the Bible Revision Committee (Bapt.) 1857, published numerous doctrinal works, and a volume, *Christian Paradoxes*, 1858.

CRAWFORD, SAMUEL WYLIE: 1829, Nov. 8—1892, Nov. 3; b. Franklin co., Penn.: milit. officer. He graduated at the Univ. of Penn. 1846; studied medicine and entered the army as asst. surgeon 1861. He commanded one of the batteries at Fort Sumter during the bombardment; then resigning his commission as surgeon he became maj. 13th U. S. inf. 1861; was promoted brig. gen. of vols. 1862; commanded the Penn. reserves while stationed in the vicinity of Washington to protect the national capital; served with distinction in the battles of Winchester and Cedar Mountain; distinguished himself at Gettysburg; and took part in all the operations of the Army of the Potomac till the close of the war. He received brevets. of col., brig. gen., and maj. gen. for distinguished gallantry; was mustered out of the volunteer service 1866; appointed col. 16th U. S. inf. 1869; and was retired on account of disability from wounds as brig. gen. U. S. A. 1873.

CRAWFORD.

CRAWFORD, THOMAS: 1814, Mar. 22—1857, Oct. 16; b. New York: sculptor. When a mere youth he worked at wood-carving, when 19 years old entered the studio of Frazer and Launitz, monumental sculptors, and when 21 that of Thorwaldsen in Rome, with whom he worked several years. He modelled busts to be put in marble, copied in marble several noted statues, including the Vatican Demosthenes, and produced his first original work, *Orpheus*, 1839. In 1844 he returned to the United States, found himself famous, modelled a bust of Josiah Quincy, sr., for Harvard Univ. library, and secured valuable commissions. On a second visit, 1849, he received a commission from the state of Va. to execute a colossal statue of Washington for the capitol at Richmond, and commissions from congress for marble and bronze statuary for the new national capitol. Under the latter commission he designed the marble pediment exhibiting life-size figures illustrative of American progress, the bronze doors, and the colossal bronze statue of liberty that surmounts the dome. He finished upward of 60 works (many colossal), religious, historical, and mythological in character, and left nearly as many sketches and designs.

CRAWFORD, WILLIAM: military officer: 1732—1782, June 11; b. Berkeley co., Va. He served as a surveyor, was associated with Washington, and was with Braddock in the French and Indian war, being promoted capt. He settled in w. Penn. 1767, and was made justice of the peace. He served through the revolutionary war, reaching the rank of col. In 1781 he resigned, and settled on a farm, but 1782 was appointed to command an expedition against the Wyandot and Delaware Indians. His party met the Indians on the Muskingum river, and, though greatly outnumbered, fought desperately for two days, when, being surrounded, they attempted to cut their way out. During this retreat C. was captured, and after being cruelly tortured, was burned at the stake.

CRAWFORD, WILLIAM HARRIS: 1772, Feb. 24—1834, Sep. 15; b. Amherst co., Va.: statesman. In 1783 he settled in Columbia co., Ga., 1788 began teaching school, 1793 was admitted to the bar, and entered on practice in Lexington. He assisted in compiling the first digest of state laws, was elected to the state senate 1802 and to the U. S. senate to fill a vacancy 1807 (fighting two duels during the canvass), was re-elected for a full term 1811, was chosen pres. of the senate pro tem. 1812, Mar., and, refusing the secretaryship of war, was appointed minister to France 1813. Two years later he was appointed sec. of war, and the next year sec. of the treasury, and held the latter office till 1825, Mar. He was urged as a candidate for the presidency several times while sec. of the treasury, received the nomination in congressional caucus—then the customary way—1824, Feb., and in the election had 41 electoral votes. No choice for president having been reached, the election was decided in the house of representatives; but meanwhile C. had been stricken with paralysis, which precluded

CRAWFORDSVILLE—CRAYON.

his effectual candidacy. He at first opposed, then supported, the war with Great Britain, carried out the views of Jefferson as again the federalist policy while sec. of the treasury, was unanimously exonerated by a special committee of the senate from charges of official misconduct while sec., was compelled by ill health to retire from political life, was elected a circuit judge in Ga. 1828, and held the office by re-elections till within a short time of his death.

CRAWFORDSVILLE: city, cap. of Montgomery co.. Ind., on Sugar creek and the Louisville, New Albany and Chicago, and the Logansport C. and Southwestern railroads; 28 m. s. of Lafayette, 43 m. w.n.w. of Indianapolis. It is the seat of Wabash (Presb.) College, founded 1834, which has 10 professors and a library of over 12,000 vols. It has 10 churches, one national bank, 4 weekly newspapers, and several carriage and other manufactories. Pop. (1870) 3,701; (1880) 5,251; (1890) 6,089; (1900) 6,649.

CRAWL, *v. krawl* [Sw. *kralla*, to creep: Icel. *krafla*, to paw: F. *grouiller*, to stir, to swarm: Dut. *krielen*, to stir about, to swarm: Dan. *gryle*, to swarm, to crawl]: to have an indistinct confused appearance of moving things; to move feebly and irregularly; to creep; to move slowly, as a worm; to move on the hands and knees, as a child: N. an inclosure on the coast for fish [Dut. *kraal*, which see]: the place set apart for fish in a fishing-boat. **CRAWL'ING**, imp. **CRAWLED**, pp. *krawld*. **CRAWL'ER**, n. one who. **CRAWL'INGLY**, ad. *-li*.

CRAYER, *krī'yēr* F. *krā-yā*, CASPAR DE: Flemish historical and portrait painter: 1582-1669; b. Antwerp. He lived first at Brussels; afterward at Ghent, where he died. For the churches at Ghent he executed 21 altar-pieces. His works are found all through Flanders and Brabant. The galleries of Vienna and Munich also possess a few. Their main characteristics are vigor and boldness of design, and care and truthfulness in execution. Rubens was a great admirer of Crayer.

CRAYFISH, n. *krā'fīsh*: for CRAW-FISH, which see.

CRAYON, n. *krā'ōn* [F. *crayon*, a piece of drawing-chalk—from *craie*, chalk: OF. *croie*—from L. *crētā*, chalk: Gael. *creadh*, clay]: a kind of pencil. **CRAY'ONS**, n. plu. pieces of chalk of different colors used for drawing with; the drawing itself done with crayons: V. to sketch with a crayon. **CRAY'ONING**, imp. **CRAY'ONED**, pp. *-ōnd*. **PORTE-CRAYON**, *pōrt-krā'ōn* [F. *porter*, to carry]: a holder for a crayon, consisting of a tube of metal split at one or both ends, for the insertion of a crayon. Though used in French, and occasionally in English, to designate a pencil generally, including those called 'lead pencils,' the word C. is more frequently applied, in England, to one of those small cylinders of charcoal, or of pipe-clay, or of chalk colored with various pigments, which are used for drawing. Cohesiveness is given to the paste of which the cylinders are formed by means of gum, wax, soap, etc. C. drawings are often remarkable for the delicacy and softness with

CRAZE—CREAM OF TARTAR.

which objects are represented, but they are deficient in power. See PENCIL: CHALK.

CRAZE, v. *krāz* [F. *écraser*, to crush, to bruise: Dan. *krase*; Sw. *krasa*, to crackle]: to disorder or weaken; to impair the natural force or energy, as of the intellect; to bruise or crush: N. a weakness of mind in any particular thing. **CRA'ZING**, imp. **CRAZED**, pp. *krāzd*: **ADJ.** applied to the glaze on pottery that has a cracked appearance, arising from improper firing. **CRAZY**, a. *krā'zī*, broken; feeble; weak; shattered in mind. **CRA'ZILY**, ad. *-lī*. **CRA'ZINESS**, n. the state of being broken or weakened in intellect, or in a thing. **CRAZING-MILL**, a mill for crushing or grinding tin.

CREAK, v. *krēk* [a word imitative of a more acute sound than that represented by *crack*: F. *criquer*, to creak: It. *criccare*, to rattle: Dut. *krick*, a crash, a creak]: to make a sharp, harsh, grating noise. **CREAK'ING**, imp.: **ADJ.** making a harsh grating noise: N. a harsh grating noise. **CREAKED**, pp. *krēkt*.

CREAM, n. *krēm* [F. *crème*; It. *crema*, cream; *cremore*, the simmering of milk beginning to boil: Icel. *krauma*, cream—from *kraumr*, the lowest point of boiling: AS. and Scot. *ream*]: thick oily scum, being the butyraceous and richer portion of milk, which as lighter rises and settles on the surface when the milk has stood for a time: see MILK. The term C. is applied in a variety of ways, indicative of something superior in quality; e.g. (colloq.) 'the cream of the joke'; thus the French, referring to persons in the height of fashion speak of *La crème de la crème*—The cream of cream. **CREAM**, v. to skim; to take off the best part of anything. **CREAM'ING**, imp. **CREAMED**, pp. *krēmd*. **CREAM'Y**, a. *-ī*, full of cream. **CREAM-FACED**, pale; having a coward look. **CREAM'INESS**, n. *-ī-nēs*. **COLD CREAM** (see that title).

CREAM OF TARTAR: compound of tartaric acid and potassa. It exists naturally in grape-juice, but being insoluble in alcohol, it is gradually deposited, in the form of argol, as the sugar of the juice becomes converted into alcohol by fermentation. In the preparation of C. of T., the argol is dissolved in hot water, to which charcoal or fine clay is added, to take up the coloring matter; by boiling and filtering, a clear colorless solution is obtained, from which, on cooling, the C. of T. separates as crystals. Some of the crystals form at the bottom; others form a crust on the top, like cream, whence the name, cream of tartar. In chemical composition, it is the Bitartrate of Potash $\text{KH-C}_4\text{H}_4\text{O}_6$, and contains potash, water, and tartaric acid. It is readily soluble in hot water, though it takes 60 parts of cold water to dissolve one part of the cream of tartar. It has an acid taste, and gritty feel. When taken repeatedly in small doses of a scruple to a drachm, it acts as a refrigerant and diuretic; in doses of one to two drachms, it is useful as an aperient; and in larger doses of from two to three drachms, it acts as a purging agent, accompanied by flatulence and griping. *Imperial liquid* is prepared by dis-

CREASE—CREASY.

solving about a drachm of C. of T. in a pint of boiling water, and adding a little lemon-peel and sugar to flavor it; when an agreeable refrigerant drink is obtained, serviceable in allaying thirst in feverish cases. C. of T. whey is obtained by adding two drachms of the salt to a pint of milk.

CREASE, *n.* *krēs* [Bret. *kriz*, a wrinkle, a tuck in a garment: W. *crych*, a wrinkle, a ripple: F. *grisser*, and *crisser*, to crackle]: a line, mark, or wrinkle made in cloth in folding it: V. to mark by a fold like a furrow. CREAS'ING, *imp.* CREASED, *pp.* *krēst*.

CREASOTE, or KREASOTE, *n.* *krē'ă-sôt* [Gr. *kreas*, flesh; *sōzō*, I preserve]: artificial organic substance, generally obtained from the products of the destructive distillation of wood. It is procured incidentally as one of the constituents of wood-tar, from which it is separated by a tedious process. The principal supplies are obtained from Stockholm, Archangel, and from America. In the pure condition, C. is a colorless oily liquid, with high refractive powers; but the commercial specimens are generally colored yellow or light brown; boils at 342°–428°; does not readily inflame; but when set fire to, burns with a smoky flame. It has an odor of smoke, a hot burning taste, and is very poisonous to plants and animals. It has a great power of coagulating albumen, and hence may be employed with advantage in toothache; a drop placed on the exposed nerve coagulates the albuminous tissues, and destroys its vitality and sense of pain. The most important property possessed by C., however, is its antiseptic or preserving power over vegetable and animal organs and structures. Thus, ordinary meat treated with only one-hundredth of its weight of C., and exposed to the air, does not putrefy, but becomes hard and dry, and assumes the taste and odor of smoked meat. Again, timber treated with C. does not suffer from dry-rot or other disease; and thus C., in a crude form, is employed in the preservation of wood (*q.v.*). The crude pyroligneous acid of commerce, often used in the curing of hams, etc., owes part, at least, of its preserving powers to the presence of a trace of C., which leaves its characteristic odor so well known as obtained from the burning of wood for the smoking of hams, etc. When used medicinally, C. acts externally by destroying the cuticle; internally, in small doses of a drop or two, it is serviceable in arresting obstinate vomiting; while in large doses it produces nausea and severe vomiting, and, in many cases, fatal results.

CREASY, *krē'sŷ*, Sir EDWARD SHEPHERD: 1812–1878, Jan. 27; b. Bexley, Kent, England: lawyer and historian. He was educated at Eton and King's College; was called to the bar 1837, appointed prof. of modern and ancient history in the Univ. of London 1840, and chief justice of Ceylon 1860. He was author of *The Fifteen Decisive Battles of the World* (1852); *The Rise and Progress of the British Constitution*; *A History of the Ottoman Turks*; a *History*

CREATE—CREATIN.

of *England* (1869-70); and *The Imperial and Colonial Constitutions of the Britannic Empire* (1872).

CREATE, v. *krē-āt'* [L. *crēātus*, created—allied to Sks. *kri*, to make: It. *creare*: F. *créer*: comp. Gael. *cruth*, a form or shape]: to give birth to; to form out of nothing; to bring into existence by inherent power; to produce from existing materials a body invested with new powers and qualities; to generate; to form anew; to invest with a new character or dignity; to produce or cause. CREA'TING, imp. CREA'TED, pp. CREA'TOR, n. -*tér*, the Deity; one who creates. CREA'TION, n. -*ā'shūn*, the act of creating the world; the world itself; the universe. CREA'TIVE, a. -*tiv*, that has a power or tendency to create. CREA'TIVELY, ad. -*lī*. CREA'TIVENESS, n. CREATURE, n. *krē'tūr*, often -*chūr*, every living thing except God, the Creator—applied also to inanimate substances; an animal; a human being in contempt or pity; anything produced or imagined; a dependant or tool. CREA'TURELY, ad. -*lī*. CREA'TURESHIP, n. state of a creature. CREATURE-COMFORTS, those things which minister to the comforts of the body.—SYN. of 'create': to make; form; cause; occasion; produce; constitute; appoint.

CREATIN, or KREATINE, n. *krē'ā-tīn* [Gr. *krēās*, flesh, *krēātos*, of flesh]: substance from the juice of flesh, discovered 1835 by Chevreul; little known till Liebig published his *Researches on the Chemistry of Food*, 1847. From his investigations, and those of subsequent chemists—especially the late Dr. William Gregory of Edinburgh—the following facts regarding its properties and occurrence have been established.

C. forms transparent, glistening crystals, belonging to the clinorhombic system, and usually occurring in groups, the character of which is exactly similar to that of sugar of lead. Although usually grouped among the basic bodies, it is neutral in its reaction. It dissolves in 74.4 parts of cold water, and in boiling water in such quantity that the solution on cooling solidifies into a mass of delicate needles. These crystals contain one molecule of water and one atom of dehydrated C, or *Creatinin*, the composition of which is represented by the formula $C_4H_7N_3O$. There is no direct chemical test for the detection of C., and the methods employed to obtain it are complicated.

C. is a constant characteristic constituent of the striped muscle of vertebrates. The quantity differs in the flesh of different kinds of animals, and even in different muscles of the same animal, but is always very small; and lean animals yield relatively more than fat ones. According to Liebig, the flesh of hens yields the largest amount, viz., 0.32 per cent., the average quantity from horse or ox flesh being 0.07 per cent. Gregory determined its amount in the flesh of various mammals, birds, and fishes; and Schlossberger found 0.067 per cent. in human flesh. It has likewise been detected in very small quantity in the blood of oxen, also in the liquor amnii of women who have died in advanced pregnancy, and it can usually be obtained

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from the urine, though it is doubtful whether it is a normal constituent of that fluid. It does not exist in the liver or kidneys, but has been found among the soluble constituents of the brain.

Although the view has been advocated that, from its occurrence in flesh, and from its large amount of nitrogen (abt. 30 per cent.), it must be an important nutritive agent, there are most decisive reasons for opposing this opinion, and for ranking it among the products of excretion; for, in the first place, if it could be employed with further advantage in the organism, it (or its near ally, creatinin) would not be allowed to escape by the kidneys; secondly, the readiness with which it may be converted into unquestionable products of excretion (as, for instance, into urea, by the action of heat and baryta water), proves its approximation more nearly to these substances, than to such bodies as albumen or fibrin; thirdly, there is no instance of a tissue-forming food in crystalline form.

CREATININ, or CREATININE, n. -*ăt'î-nîn*, substance in the form of prismatic crystals containing an atom less of water than creatin; closely allied in its chemical and physiological relations to creatin. Liebig found that, when heated with a strong mineral acid, a solution of creatin no longer yields crystals of that substance, but a new body of totally different chemical properties, to which he gave the name of creatinin. Its chemical composition is represented by the formula $C_4H_7N_3O$, and on comparing this formula with that for creatin, we see that the conversion of the latter into the former, by the action of mineral acids, depends upon the separation of the elements of water. Liebig shortly afterward detected C. as a constituent of the muscular juice. In the latter fluid, it occurs in less quantity than creatin; while in the urine, where also it is found, it is the more abundant of the two. Traces of it have been found also in the blood and in the liquor amnii.

C. crystallizes in oblique rhombic prisms; is a most decided alkaloid, reacting strongly on vegetable colors, and having almost as caustic a taste as ammonia; it further differs from creatin in its far greater solubility in water, alcohol, and ether. There can be little doubt that C. takes its origin from creatin.

CREATIONISM, *krê-ă'shŭn-izm*: in theology, a term in use from ancient times, denoting the theory that the spiritual essence in every individual man is produced not like his body by generation, but immediately as an inbreathing into him from the creative Spirit of God. It is thus opposed to TRADUCIANISM (q.v.). In recent years it has been applied as indicating a theory of the origin of the human race by God's direct creative act, as opposed to evolutionism, which affirms that humanity is developed from or through some preceding animal forms: see DARWINIAN THEORY: EVOLUTION.

CRÉBILLON, *krâ bē-yōng'*, CLAUDE PROSPER JOLYOT DE, the younger: 1707, Feb. 14—1777, Apr. 12; b. Paris; son of Prosper Jolyot de C. In an age of licentious manners,

CRÉBILLON—CREDENCE.

he acquired popularity by a series of romances, remarkable chiefly for violation of decency; the principal of which are *Le Sopha*, *Le Hasard du Coin du Feu*, *Les Égaréments du Cœur et de l'Esprit*.

CRÉBILLON, PROSPER JOLYOT DE: 1674–1762, June 17; b. Dijon: French dramatist. He was sent to Paris to study law, but turned to poetical pursuits. His first piece, *La Mort des Enfants de Brutus*, was rejected by the actors; but the succeeding dramas of *Idoménée* (1705) and *Atrée* (1707) were successful. *Rhadamiste* (1711), a tragedy of the dismal kind, was reckoned C.'s masterpiece, and established his reputation. After producing some other pieces, C. fell into pecuniary difficulties and neglect, and for more than 20 years produced nothing. His talents were then called again into requisition by Madame de Pompadour, who wished to humble Voltaire. He received from the king a pension of 1,000 francs, and completed the tragedy of *Catilina*, for which the king himself supplied all the properties. When 81 years old, C. wrote his tragedy *The Triumvirate*, and, still later, commenced, but did not finish, another called *Cromwell*. Louis XV. erected a monument to his memory. C., in general, displays little skill in the conduct of his plots; the monologues of the speakers are too numerous and too long; but in the opinion of his countrymen he is surpassed, in 'the grandeur of his sentiments,' only by the author of the *Cid* and *Horace*. The best edition of C.'s works is that published by Didot (2 vols. Paris 1818).

CRÈCHE, n. *krāsh* [F. *crèche*, a crib]: a house for the temporary accommodation of young children during the time their mothers are at work; a cheap day boarding-house for very young children and infants, conducted from benevolent motives.

CRÉCY or CRESSY, *krēs'sŭ*, F. *krā-sē'*: small town of France, dept. of Somme, on the Maye, about 12 m. n. of Abbeville. C. is notable chiefly for the brilliant victory, 1346, Aug. 26, of Edward III., with 40,000 English soldiers, over a French army amounting, according to Froissart, to 100,000 men, under the Count of Alençon. In this great battle, one of the most honorable to English prowess recorded in history, the flower of French chivalry was slain, as well as the kings of Bohemia and Majorca, who were fighting on the side of France. Altogether, about 30,000 of the French army fell. In this battle the Black Prince, who greatly distinguished himself, gained his spurs; and the crest of the slain Bohemian king, composed of three ostrich feathers, with the motto, *Ich Dien*, 'I serve,' was adopted by him in memory of the victory, and continues to be borne by the Prince of Wales. C. is an ancient place. Pop. abt. 1,500.

CREDENCE, n. *krē'děns* [L. *credens* or *creden'tem*, trusting or confiding in—allied to Sks. *crat*, faith: It. *credenza*, belief: comp. Gael. *creideas*, faith, credence]: belief; credit; confidence. CREDENDUM, n. *krē-děn'dŭm*. CREDEN'DA, n. plu. *-dă* [L.]: a thing to be believed; an article of faith.

CREDENCE—CREDIT.

CREDENT, a. *krě'děnt*, in *OE.*, believing; not to be questioned. **CREDEN'TIAL**, a. *-shāl*, giving a title to credit. **CREDEN'TIALS**, n. plu. *-shālz*, that which gives a title to credit; the letters or written documents on which a claim to hospitality or official status is founded at a foreign court.

CREDENCE or **CREDENCE-TABLE**, n. *krě'děns-tā'bl* [*F. crēdençe*—from *It. credenza*—from *mid. L. credentiā*, the buffet or sideboard at which the king's taster, *credentiāriūs*, proved all dishes by tasting them before they were set on table (see **CREDENCE**): small table at the side of the altar or communion-table, on which the bread and wine are laid before being consecrated. It is a sort of side-altar in the Greek Church called *Trapeza Prothesis*. Abp. Laud was a great stickler for the C., and pleaded the authority of Bp. Andrews and other bishops for its use. There are credences in various Anglican churches; among others, in the Collegiate and St. John's Churches, Manchester; and in the parish church at Ludlow, where they have been in use from time immemorial. Sometimes the place of the C. was supplied by a mere shelf across the fenestella (q. v.). The introduction of the C. is one of the restitutions of old usages which marked the movement in the English Church known as Puseyism: see **PUSEY**, **EDWARD BOUVERIE**.

CREDIBLE, a. *krěd'ī-bl* [*L. credibilis*, credible—from *credēre*, to trust, to confide in]: worthy of credit or belief. **CRED'IBLY**, ad. *-blī*. **CRED'IBIL'ITY**, n. *-bīl'ī-tī* [*F. crédibil-ité*—from *L. credibilitātem*]: the state of a thing which renders it possible to be believed; strong claim to credit. **CRED'IBLENESS**, n. *-bl-něs*.

CREDIT, n. *krěd'īt* [*F. crédit*—from *L. creditum*, a loan: *L. credit*, he confides or trusts in: *It. credito*, credit]: trust or confidence in; reliance on the truth of words spoken; confidence in the sincerity of intentions or actions; good opinion derived from character or social position; power; influence; sale of goods on trust; time allowed for payment of goods not sold for ready money; in *book-keeping*, one side of an account is called the credit (Cr.) side, the other the debtor (Dr.) side—*by* is the sign of entry of the former, and *to* of the latter: *V.* to confide in; to believe; to trust; to sell goods on trust; to do honor to; to put a payment to an account to lessen its amount. **CRED'ITING**, imp. **CRED'ITED**, pp. **CRED'ITABLE**, a. *-ī-tā-bl*, worthy of praise or commendation; honorable. **CRED'ITABLY**, ad. *-tā-blī*. **CRED'ITABLENESS**, n. *-tā-bl-něs*, the quality of being creditable; reputation. **CRED'ITOR**, n. *-ī-tēr*, one who has a just claim on another for money; in *OE.*, one who credits; a believer: see **DEBTOR**: **BANKRUPT**.—**CASH CREDIT**: see **CASH ACCOUNT**.—**SYN.** of 'credit, n.': belief; trust; faith; character; reputation; esteem; honor; estimation; authority; confidence; interest.

CRED'IT, in Political Economy: one of many terms in that science, which are not as yet scientifically defined. However, the practical meaning of the word is thoroughly known, when economists speak of the extent to which C.

CREDIT.

is safe or proper, unsafe or improper, in this or that class of cases. Thus far there has been approximation to a scientific notion of the nature of C.; it is known that while it serves the purpose of capital, it can do so only while there is capital ready to come and take its place if necessary. Credits which are not in this position—though they may happen to serve their turn, as a ship may sail some distance unwrecked without a steersman—do not accomplish the purpose of capital. The real power of C., properly resting on capital, is that it enables that capital to be devoted to more than one purpose. A bank is a great emporium of C.; that is to say, it consists of a certain amount of capital, which can be operated on by a whole community—not all at one time, but by individuals as occasion requires. Thus, a comparatively small stock of money can be made to do duty for carrying on numerous transactions. But it is indispensable for insuring a safe system of C. that money must be instantly available when wanted; and this principle applies not only to banking, but to every species of transaction in which postponed payment is concerned. Unfortunately, this principle is often set aside, and C. is grossly abused. The facts brought out in great bankruptcies generally teach the moral, that men who have every element of financial prosperity in their power, ruin their prospects by trying to make \$30,000 do the work of \$100,000. In many bankruptcies, too, there is a curious illustration of the power of C. as a representative of capital, in enabling men to keep up for a considerable time the appearance of being wealthy traders, though they never had a farthing which they could honestly call their own. In the few instances where such projects succeed, there is the kind of applause which is given to the successful winner in any game of chance; and it is naturally felt that if the successful are applauded, it is hard to condemn the unsuccessful; hence arises a dangerous leniency in public opinion toward speculators on credit.

In a modified shape, C. is a thing which, to all appearance, can never be abolished. There is scarcely a human being in a civilized country, who does not transact a piece of credit business almost every day of his life. The workman hired by the week, and paid at its end, gives his employer C. from Monday morning to Saturday evening. The same workman, when getting a coat made for himself, even although he engaged to pay ready money on delivery, gets C. from the tailor during the making. It is necessary to consider these things, because a course of C. is often so hurtful to people of the working-classes, by fastening ruinous obligations on them, that some people have proposed to abolish all C. where they are concerned, by rendering them free from all legal procedure for the recovery of debts. The answer to this is, that although it is practicable to relieve any class from obligations, and their legal enforcement, it is impossible in a trading country to suppress debt and credit. It is practicable, however, so far to modify the legal remedies against debtors of the poorer class, that there may not be, as there too often is, a temptation to traders to transact

CREDIT—CREDIT MOBILIER.

a special business, in holding out temptations to working-people to purchase on credit.

CREDIT, LETTER OF: banker's written authority and request to another banker or person, to pay the sum therein specified to the bearer of the letter, or to some other third party named in it, and authorizes him to re-imburse himself for such payment, either by debiting it in account between the parties, or by drawing on the first party for the amount. This arrangement may take place between merchants or others, but in general it occurs between *bankers* residing in different places.—A small charge is made by the bank issuing the letter, termed the exchange or commission. Sometimes the letter is addressed to *all* or *several* of the correspondents of the bank issuing it, in which case it is termed a *Circular Credit*; and any of them may pay the sum mentioned, or sums to account as desired, taking the holder's receipt, or his draft on the granter, in exchange; and the sums so paid are *indorsed* on the letter, to show how far the credit has been used. If the party holding a circular letter can be properly introduced, even at a place where the granter has no correspondent, little difficulty will be experienced in obtaining money upon it; and the practice is to re-imburse any one who has given the money, if within the amount of the credit. The system is a great convenience to persons travelling, especially in foreign countries.

Some bankers, having an extensive correspondence abroad, issue what are called *Circular Notes*, usually of the value of \$50 or \$100 each, which any of the granter's correspondents, or indeed any one else, may cash to the holder, on his 'indorsation;' but a third party must take his risk of its being questioned. For this kind of credit, the receiver at once re-imburses the granter; whereas for the ordinary letter of C., he is only re-imbursed when the drafts under it are advised to him, the holder continuing during the interval to raise interest on his money deposited for covering it: see CIRCULAR NOTES.

CRÉDIT FONCIER, *krā-dē fōng'syā*: peculiar method of borrowing money in France on the security of landed property; established by an edict of 1852, Feb. 28. The repayment of the loan is by an annuity terminable at a certain date; the date and the amount of annuity being so calculated, that when the last payment is made, the loan and the interest on it will be extinguished. Another method of describing it is as a loan repayable by instalments. The transaction is precisely regulated by the edict, which prohibits an advance on more than a half of the value of the property pledged or hypothecated. Three several companies were established by the French government, with the privilege of making such advances.

CRÉDIT MOBILIER: see MOBILIER.

CREDIT MOBILIER OF AMERICA, *krā-dē mō bē-lyā*: corporation originally chartered by the legislature of Penn., as the Penn. Fiscal Agency, 1859, organized for the transaction of a loan and contract business 1863, and, on

CREDITON—CREEDMOOR.

the purchase of its franchises by Thomas C. Durant and others, reorganized as a corporation to construct the Union Pacific railroad, 1864. The capital stock was then increased from \$2,500,000 to \$3,750,000, and as the new company paid large dividends the shares soon reached a high figure. In 1872 it was publicly charged that the vice-pres., the vice-pres.-elect, the sec. of the treasury, the speaker of the house, and several U. S. senators and representatives had accepted presents of stock tendered to influence them in favor of the railroad company. A committee of investigation was appointed by the house 1872, Dec., and it reported 1873, Feb. 18, recommending the expulsion of Oakes Ames, of Mass., and James Brooks, of N. Y., the first for having sold stock below value to members of congress from improper motives, the other for having indirectly purchased some. The house voted to censure instead of expel the members named; and a similar senate committee recommended the expulsion of one senator, but no action was taken by the senate.

CREDITON, *krē'dī-ton*, or **KIRK'TON**: borough in the middle of Devonshire, England, on the Creedy, a tributary of the Exe, 8 m. n.w. of Exeter. It lies in a narrow vale between two steep hills. At C. was born the Anglo-Saxon Winfred, or St. Boniface, the first to preach Christianity in Central Germany, founder of the monastery of Fulda, and archbishop of Mainz. C. was the seat of a bishopric 909-1050, when the sees of Devon and Cornwall were united and placed at Exeter. The chief manufactures were formerly woollens and serges, but now shoes. C. was much injured by fires 1743 and '69. Pop. about 6,000.

CRE'DO, *krē'dō* [L. *I believe*]: part of the service of the mass, beginning with the words, *Credo in unum Deum*.

CREDULOUS, a. *krēd'ū-lūs* [F. *crédule*—from L. *cred-ūlus*, easy of belief—from *credo*, I believe: It. *credulo*]: too easy of belief; unsuspecting; easily deceived. **CRE'DU-LOUSLY**, ad. *-lī*. **CRE'DULOUSNESS**, n. **CREDULITY**, n. *krē-dū'li-tī*, excessive easiness of belief; unsuspecting trust.

CREED, n. *krēd* [L. *credo*, I believe, being the first word of the L. version]: a brief summary of the essential articles of religious belief; any system of principles professed or believed.

CREEDE: a town and cap. of Mineral co., Col.; on the Denver and Rio Grande railroad, 35 m. n.w. of Del Norte. It has very rich silver mines; was named after N. C. Creede, who staked the first claims here in 1889. In 1892 the business part of the town was almost entirely destroyed by fire. Pop. (1900) 938.

CREEDMOOR, *krēd'mōr*: field for rifle practice, largest and most complete rifle-range in the United States; a station on the Long Island railroad, 11 m. e. of New York.

CREEDS AND CONFESSIONS.

CREEDS AND CONFESSIONS: authorized expression of Christian doctrine set forth by the church at large, or by the several sections into which it is divided. Such statements of doctrine sprang up naturally in the church's progress. As the simple truths taught by Christ in practical and mostly concrete form became the subjects of thought, of argument, of controversy, they could not fail to receive a more defined intellectual expression, and to be drawn out into more precise dogmatic statements—products of a Christian rationalism. Hence, the great creeds, as they rise in succession, and mark the climax of successive controversial epochs in the church, are nothing else than the varying expressions of the *Christian consciousness and reason*, in their efforts more fully to realize, comprehend, and express the originally simple elements of truth recorded in Scripture. The study of the creeds would be nothing else than the study of the science of theology in its highest historical development—in its reflex settlements after the great agitations of Christian thought had run their course.

Corresponding to this view, the creeds of Christendom grow in complexity, in elaborate analysis and inventiveness of doctrinal statement, as they succeed one another. The first are comparatively brief and simple in sense and form; the last are prolix and largely didactic. From the Apostles' Creed to the decrees of the council of Trent, or the chapters of the Westminster Confession of Faith, there is a wide change, during which the christian consciousness has grown from a childlike faith to a critical opinionativeness.

What has been called the *Apostles' Creed* is the earliest form of Christian creed extant unless precedence be given to the baptismal formula at the close of Matthew's Gospel, out of which many suppose the Apostles' Creed to have grown. There were in the early church differing forms of this primitive creed; that which is received and repeated in the service of the Church of England, has come through the Latin Church; and in several of its clauses, as, for instance, 'He descended into hell,' and again, 'The communion of saints,' is supposed to have been interpolated according to later notions. A great variety of opinions has been held as to the origin of this creed. The Rom. Cath. Church has not only attributed it to the apostles directly, but professes to settle, on the authority of a spurious sermon of St. Augustine, the clauses respectively contributed by the several apostles: 'Petrus dixit, Credo in Deum Patrem omnipotentem. Joannes dixit, Creatorem cœli et terræ. Jacobus dixit,' etc. The earliest account of its origin we have from Rufinus, historical compiler and traditionalist of the 4th c. His statement is, that the apostles, when about to separate to preach the truth to different nations, agreed upon a 'form of sound words' which should express the sum of their common teaching. 'When met together, and filled with the Holy Ghost, they composed this compend of what they were to preach, each one contributing his share to the one composition, which they re-

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solved to give as a rule of faith to those who should believe.' No great weight belongs to this testimony; Rufinus is no historical authority. It is not improbable in itself, however, that even in the age of the apostles some simple formula of belief existed. The exact form of the present creed cannot pretend to be nearer to the apostles than four hundred years, but a form not much different from it was in use long before. Irenæus, scholar of Polycarp, who was the disciple of the apostle John, when he repeats a creed not much unlike the present, declares that 'the church dispersed throughout the whole world had received this faith from the apostles and their disciples;' and Tertullian affirms that a similar creed had been 'prevalent as a rule of faith in the church from the beginning of the Gospel.' The same thing is proved by the creeds administered to the candidates for baptism in the 2d and 3d c. They correspond, with slight variations, to the Apostles' Creed. The true view of this formula of church belief, therefore, seems to be that which regards it as the Roman or Latin form in extension of the creed which prevailed in all the early churches. It is not strictly apostolic—certainly not in the order of words derived through the Latin Church, in which it is now received and repeated; but it may be deemed substantially apostolic—fairly representative of the different elements of Christian faith as handed down from the apostles, and therefore not without a claim in its substance on the credence of the universal Christian church. Since the Reformation in England, it has been the usage to exhibit the Apostles' Creed and Ten Commandments in legible characters on boards near the communion-table in churches, that they might be seen and repeated by the common people who were unprovided with books.

The *Nicene*, or rather, the Niceno-Constantinopolitan Creed, is the next great expression of doctrinal truth in the history of the church: see NICENE CREED. It sprang out of the conflict, which had begun even in the 2d c., as to the dignity and character of Christ. From the beginning, Ebionitism had looked upon Christ as merely a Jewish teacher of distinction; Theodotus and Artemon openly taught such a doctrine in Rome toward the close of the 2d c. Others, at a contrary extreme, taught a doctrine which identified Christ with God absolutely in such a manner as to destroy all distinction of the three personalizations in the Godhead. Monarchianism, which held rigorously and formally to the unity of God, was the ruling principle of both doctrines, opposite as were the expressions that it assumed in the two cases.

The controversy thus begun in the 2d perpetuated itself in the 3d c., under various modifications. Paul of Samosata carried out the Unitarian tendency, which reduced Christ to the level of a mere man; Sabellius carried out the same tendency in the opposite direction, which made Christ not merely divine, of the same substance with the Father, but looked upon him as merely a manifestation of the Father, without any distinct personalization. Sabellianism recognized a Trinity of manifestations, but not a Trinity of ex-

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sences, nor even of distinct actual personalizations. God was one and all-comprehending, and the Son and the Spirit were merely names or expressions for the different modes in which he reveals himself. Sabellius lived about the middle of the 3d c., and Paul of Samosata somewhat later. Arius, a presbyter of Alexandria, grew up in the midst of these divisive influences, and soon distinguished himself in the Alexandrian church for his advocacy of the doctrine that Christ, though in a true sense divine, or the Son of God, was yet not the very God. He denied that he was 'of the substance of God,' or 'without beginning;' he was only the highest of created beings, in a sense divine, but not the same in substance with the Father, nor equal with him in power and glory. Athanasius came forward as the opponent of Arius, and the contest between them raged keen and wide throughout the church.

The Council of Nicæa was summoned 325 by Constantine, with the view of settling this controversy; and the Nicene Creed was the result: see NICE or NICÆA: NICE, COUNCILS OF. There were these three parties in the council—the Athanasians, or extreme orthodox party; the Eusebians, or middle party; and the Arians, or heretical party. The Arians were few in number, and had little influence; but the Eusebians were a strong party, and for some time resisted certain expressions of the orthodox or Athanasians, which seemed to them extreme and unwarranted; but at length the Homöousians, as they were called, carried the day; and Christ was declared not merely to be of like substance (*homoiousios*), but of the same substance (*homöousios*) with the Father. At the later Council of Constantinople (see CONSTANTINOPLE, COUNCILS OF), the additional tenet of the divinity of the Spirit was added, and the Nicene Creed completed in the form in which it is familiar in the communion service in the Book of Common Prayer. It confesses the holy and undivided Trinity, and distinctly owns the divinity of each person. It commemorates the creation of the world by 'God the Father Almighty;' it acknowledges Jesus Christ to be the 'Lord' 'begotten' from all eternity, 'of one substance with the Father,' and with him Creator of all things; it acknowledges that 'for our salvation he came down from heaven, was made man, and suffered and died for us.' It commemorates his resurrection, ascension, and sitting at God's right hand; expresses the expectation of his second coming; and declares that 'his kingdom shall have no end.' It acknowledges 'one baptism for the remission of sins,' and looks 'for the resurrection of the dead' and 'the life of the world to come.'

The next remarkable monument of doctrinal truth in the church is called the *Athanasian Creed*, a product of the 5th c., much later than Athanasius himself, but representing, with great formal minuteness and fidelity, his doctrine of the Trinity, as apprehended and elaborated by the Western Church: see ATHANASIAN CREED.

The Apostles', the Nicene, the Athanasian, are often called the great catholic or universal creeds of the church;

though this statement must be taken in a general sense. After the time of the last-mentioned formula, there is no general symbol of faith that claims attention, till the period of the Reformation. Theology continued to be cultivated during the middle ages, especially during the 12th and 13th c., with great assiduity. Scholasticism is nothing else than the vast expression of the intellectual labor bestowed upon this subject during these ages, when scarcely any other subject can be said to have engaged men's minds. It was characteristic of scholasticism, however, to work mainly upon the doctrinal *data* already adopted and authorized by the Church, developing these data in endless sentences and commentaries. There was, withal, no real freedom of inquiry, nor life of speculation. But as soon as the eye of free criticism and argument was turned upon Scripture by the Reformation, new Creeds and Confessions began to spring up. On one hand, Protestantism had to defend its position and its scriptural authority by appeal to its system of belief; on the other hand, the Church of Rome, after many delays, gave forth at the Council of Trent (1545-63), a more extended and detailed statement of its doctrine than was to be found in any previous creeds. The *Decrees of Trent* are the fixed authoritative symbol or confession of faith of the Church of Rome: see TRENT, COUNCIL OF: VATICAN, COUNCIL OF THE.

Of the Protestant churches, the most notable confessions of faith are the Lutheran; the continental Calvinistic or Reformed; the Anglican, or Thirty-nine Articles of the Church of England; and the Puritan, or Westminster Confession of Faith.

The Lutherans call their standard books of faith and discipline *Libri Symbolici Ecclesiæ Evangelicæ*; and reckon among them, besides the three catholic creeds, the Augsburg Confession (q.v.), the Apology for that confession by Melancthon the Articles of Smalkald drawn up by Luther, Luther's Catechisms; and in some churches, the Formula of Concord, or the Book of Torgau.

Of the continental Calvinistic or Reformed Churches, there are numerous confessions, the principal of which are—1. The Helvetic Confessions—that of Basel, 1530, and Bullingers *Expositio Simplex*, 1566; 2. The Tetrapolitan Confession, 1531; 3. The Gallic Confession, 1559; 4. The Palatine or Heidelberg Confession, 1575; 5. The Belgic Confession, 1559.

The *Thirty-nine Articles* of the Church of England (see ARTICLES) were originally forty-two, and are supposed to have been composed chiefly by Cranmer. In 1571, they were revised and approved by convocation and parliament.

The Westminster *Confession of Faith* was the product of the great Puritan agitation of the 17th c. As soon as the Long Parliament assembled 1640, it set itself to consider the reformation of religion. It carried resolution after resolution against the existing government of the Church of England; and at length, 1641, Nov. 23, it passed the famous Remonstrance in which it proposed that, 'in order

the better to effect the reformation in the church, there should be a general synod of grave, pious, learned, and judicious divines, who should consider all things necessary for the peace and good government of the church.' Out of this proposal sprang the Westminster Assembly, though the parliamentary ordinance actually summoning the Assembly was not issued till a year and a half later—1643, June 12. According to this ordinance, the Assembly was to consist of 121 clergymen, assisted by 10 lords and 20 commoners as lay assessors. Many of these appointed members, however, never took their seat in the Assembly. The bishops were prevented from doing so by a counter ordinance of the king.

Among the most notable divines who did assemble were Burgess, Calamy, Gataker, and Reynolds, and Gillespie, Henderson, Baillie, and Samuel Rutherford, the commissioners from Scotland, of the Presbyterian party; Goodwin, Nye, and Burroughs, of the Independent or Congregational party; and Lightfoot and Coleman, with Selden, of the Erastians. The Presbyterians greatly predominated, and the acts of the assembly bear throughout the stamp of Calvinistic Presbyterianism. It began its sittings in the autumn of 1643, and sat till 1649, Feb. 22, upward of five years and a half, and met 1,163 times.

Its most important labors were the Directory of Public Worship and the Confession of Faith. This latter document was completed in the third year of its existence (1646), and laid before parliament in the same year. It was approved by the General Assembly of the Church of Scotland 1647, and again 1690, on the renewed establishment of Presbyterianism after the revolution.

The Confession of Faith, as it is the latest of the great Protestant creeds, so it is one of the most elaborate. It extends to 33 chapters, beginning with *Holy Scripture*, and ending with *The Last Judgment*. Of these chapters, 21 may be said to be distinctly doctrinal—the first nineteen and the last two. The others concern such subjects as *Christian Liberty, Religious Worship, Oaths and Vows, the Civil Magistrate, the Church, the Sacraments, Synods and Councils*. The tone of the doctrinal chapters is that of the later and formal Calvinism which spread from Holland among the English Puritans. The ecclesiastical spirit is Puritan-Presbyterian. 'God alone' is declared to be 'Lord of the conscience;' yet the 'publishing of opinions contrary to the light of nature, or to the known principles of Christianity,' is at the same time declared matter of censure by the church, and of punishment by the civil magistrate. In composition, the Confession is an able and comprehensive summary of theological truth, showing great logical skill in the deduction of particular doctrines from certain main principles. The third chapter, *Of God's Eternal Decree*, may be said to be the key-note from which its most characteristic doctrines follow in immediate sequence and harmony. It is well deserving the attention of all students of theology, not only as a remarkable monument of Christian learning, but as the most representative expression of

CREEK—CREEL.

a great spiritual and intellectual movement which has deeply tinged the national thought of Britain, and modified the course of its history. It became the authoritative standard of the Presbyterian churches of Britain and America; but of course was not recognized as authority in Episc. (including Meth. Episc.), or in Cong. (including Bapt.) churches. See PRES. CHURCH.

CREEK, *n.* *krēk* [Dut. *kreek*, a crooked ditch, a small stream having an elbow: Icel. *kryki*, a corner: F. *crique*, a small natural haven: AS. *crecca*, a creek]: a narrow inlet of water from the sea into the land; a sudden bend of a river; a pool in a deserted river-course; a brook; in *Australia*, a dry river-bed; in the *western United States*, the term is applied to small inland rivers. **CREEK'Y**, *a.* *-ī*, full of creeks; winding.

CREEKS, *krēks*: nation of American Indians, known among themselves as Muskogees, found by whites first in Ala. and Fla. Their traditions asserted that they sprang from the earth in the distant northwest and were led on a long trail to Fla. by the Cussitaw tribe. They settled in a district with numerous creeks and streams, whence the whites gave them the name of C. After several tribes had settled in upper Fla. and Ala., those that remained in the everglades became known as Seminoles. Both the C. and the Seminoles were very numerous and warlike. The former were hostile to the American cause from the beginning of the revolutionary war, through the influence of royalists and traders. At the close of the war congress offered them a choice between a treaty of peace and a declaration of war, and as a result they signed a treaty in New York 1790. At the outbreak of the war of 1812, they were again roused to hostility by the English, and killed 400 men, women, and children at Fort Mimms, 1813, Aug. 30. This led to direct war with the Federal govt., and Gens. Coffee, White, Claiborne, Floyd, and Jackson, defeated them in severe encounters in 1813, Nov. and Dec., and in 1814, Jan. and Mar. They signed a new treaty 1814, Aug., and another 1825, Feb. 25; in the latter ceding their Ga. and Ala. land for an equal quantity in the Indian Terr. and \$400,000 in money; but this treaty was subsequently repudiated by them, and the Govt. was compelled to remove them, 1836. Of the total number 24,594 were removed beyond the Mississippi river, and 744 left e. of it. During the civil war one portion of the C. remained loyal to the govt., defeated the Confederate troops in two battles, and were themselves almost annihilated in a third, while another portion under the head-chief joined the Confederate army. Their present country is divided into independent towns, and governed, by the constitution of 1868, by a first and second chief, a house of warriors, and a house of kings. Missions have been established among them by the Presb., Meth., Episc., and Bapt. churches, and a moderate degree of civilization attained. By 1884 they had decreased in numbers to 14,000.

CREEL, *n.* *krēl* [Scot.: Icel. *kríli*, a basket]: a small

CREEP—CREEPER.

wicker-basket used by anglers; a larger basket used by women to carry fish in on the back.

CREEP, v. *krēp* [AS. *creopan*; Dut. *kruipen*; Ger. *kriechen*, to creep: Icel. *kriupa*, to kneel: comp. Gael. *crub*, to crouch]: to move forward on the belly, as an animal without feet; to crawl, as on the hands and knees; to move slowly, feebly, secretly, or insensibly, as time; to grow along, as a plant; to trail. **CREEP'ING**, imp.: **ADJ.** having a tendency to creep or the habit of creeping. **CREPT**, pt. and pp. *krēpt*. **CREEP'ER**, n. *-ēr*, a climbing or trailing plant; an instrument with iron hooks or claws for dragging at the bottom of water; a little climbing bird like a wood-pecker. **CREEP'HOLE**, n. *-hōl*, an excuse; a subterfuge. **CREEP'INGLY**, ad. *-lī*. **CREEPING-SHEET**, the feeding apron of a carding machine.

CREEP'ER (*Certhia*): genus of birds, type of the family *Certhiadae*; having a longish, slender, arched, and pointed bill; a long, narrow, sharp-pointed tongue, jagged near its tip; the tail rather long, and the tips of the tail-feathers firm and pointed, extending beyond the webs. The feet are rather slender; the hinder toe about as long as the other toes. Of this conformation of feet and tail great use is made in climbing trees, the stiff feathers of the tail being used for support. Although the family is large, it is doubtful if the genus contains more than one true species, the **COMMON C.** (*C. familiaris*), a bird found in all temperate



Common Creeper (*Certhia familiaris*).

parts of the n. hemisphere wherever wood abounds. It searches for insects and their larvæ in the crevices of the bark, and generally ascends from the root to near the top of a tree before it flies off to another tree or branch. It usually builds its nest in a hole of a decayed tree. It is a small bird, though considerably larger than the wren. Its note

CREEPS—CREMATION.

is monotonous, and often repeated. Its prevalent color is reddish-brown above, different shades being beautifully intermingled, and speckled with white; the under parts white. In Scotland, it is frequently called *Bark-speeler* (Anglicè, Bark-climber).—The WALL C. (*Tichodroma muraria*) of the south of Europe, frequents walls and the faces of rocks; it has a more slender bill, and the tail-feathers are not pointed.

CREEPS, *krēps*: miner's term for the depression which results on the surface from the removal of beds of coal beneath. Masses of the coal-seam, like huge pillars, are left by the miners for the support of the superincumbent strata; the pressure, however, of these beds is so great that, in course of time, the ceiling gradually sinks, or, as is more frequently the case, because of the ceiling consisting of hard rock, the softer shale pavement rises, until the intervening spaces between the pillars, left by the removal of the coal, are filled up. A consequent depression takes place in the beds above, as also an alteration of the surface-level. But this being gradual is seldom noticed, except when evident from the accumulation of surface-water, or where railways pass over the coal-fields.

CREESE, n. *krēs*: a Malay dagger—also written KRIS.

CRE'FELD: see KREFELD.

CREMA, *krā'mā*: town of Lombardy, province of Cremona, on a plain 25 m. e.s.e. of Milan. C. has an old castle and cathedral. Pop. (1881) 9,111.

CRÉMAILLÈRE, n. *krēm'āl yār'* [F. a pot-hanger]: in *fort.*, lines having an indented or zigzag outline, somewhat resembling the teeth of a saw.

CREMATION, n. *krě-mā'shŭn* [L. *cremātiōnēm*, a consuming by fire—from *cremo*, I burn]: a burning; the burning of the dead. CREMATE, v. *krě-māt*, to burn a dead body instead of interring it. CREMA'TING, imp. CREMA'TED, pp. CREMATORIUM, n. *krēm'ă-tō'rĭ-ŭm*, a furnace in which the dead may be consumed to ashes.—Cremation was a very early and widespread usage of antiquity. The early Aryans, as opposed to the non-Aryan aborigines of India, Greeks, Romans, Slavs, Celts, and Germans, burned their dead, so that cremation may be regarded as the universal custom of the Indo-European races. (See also 1 Sam. xxxi. 12.) The graves of n. Europe throughout the 'bronze age' contain only jars with ashes. It was Christianity that gradually suppressed cremation. In India it is still a usual method for disposing of corpses, and is practiced by numerous uncivilized peoples of Asia and America (see BURIAL). A return to the practice has been strongly insisted on in Europe and America by many in recent years. This is opposed mainly on grounds of sentiment, and for religious reasons, connected, though very vaguely, with the belief in the resurrection of the dead. Advocates of cremation assert that these are prejudices founded on misapprehension, and that the question is solely a sanitary one: inasmuch as burning merely produces in two or three

CREMATION.

hours what putrefaction accomplishes through a long period. The damage to the health of those who live near churchyards and cemeteries, from the exhalations of noxious gases and the poisoning of water supplies, is an indisputable fact, and is in many cases quite inevitable. By burning, the body is reduced more swiftly to its constituent elements, without disrespect to the dead, or hurt to the living. As for interference with the resurrection which is the object of Christian faith, reference is made to the burning at the stake of eminent saints and martyrs, e.g., Polycarp, Huss, Latimer, Ridley, and multitudes of others. In Italy cremation has been legal since 1877, and is not unusual at Milan, Lodi, and elsewhere. In Berlin, Dresden, and Leipzig there has been strong agitation in favor of it; and at Gotha there is a large mortuary and crematorium, where between 1878 and '81 upward of 56 dead bodies were consumed by fire. Societies for securing the legalization or furthering the practice of cremation exist in Holland, Belgium, France, England, and the United States. Interest in this movement was awakened in England, 1874, by Sir Henry Thompson: the council of the society established in that year purchased ground at Woking, Surrey, 1878, and there erected a crematory on the principle of that at Lodi. This apparatus reduced part of the carcass of a horse weighing 140 lbs. to 6 lbs. of white ashes in two hours; but a special act legalizing cremation of human corpses is still awaited by the society. The human body consists of 60 per cent. of water and 40 per cent. of solid matter; and quickly to reduce this to ashes requires a strong furnace. A special form of Siemens' regenerator furnace is that which has found most favor. Cremation was performed in the United States by scientific process first in 1876 at Washington, Penn. The New York Theosophical Soc. had for several years urged the establishment of a crematory for sanitary reasons, and one of its members, Joseph Henry Louis Charles, Baron de Palm, a former aide of the King of Bavaria, and a mason of high degree, had signified a desire that his mortal remains should be cremated, and set apart a sum of money as a contribution toward the expense of erecting the necessary building and furnace. In the latter part of 1876, F. J. LeMoyne, a physician of Washington, Penn., undertook the erection of a crematory on the general Martin-Siemens' plan for the cremation of his own remains. Before its completion Baron de Palm died; his remains were embalmed and kept in New York till Dec., when Dr. LeMoyne having finished the furnace, the body was removed to Washington by the Theosophical Soc., and on Dec. 6, in the presence of a large concourse of people, including the officers of many state and local boards of health, physicians and sanitary engineers from all parts, and representatives of the press of the United States, England, France, and Germany, it was cremated, with the consumption of 40 bushels of coke and at a total cost of \$7.04. Dr. LeMoyne's crematory consists of a brick and fire-brick structure, 10 ft. long, 6 ft. wide, and 6 ft. high, including a fire-clay re-

CRÉMIEUX—CREMOCARP.

port of semi-cylindrical shape 7 ft. long, 24 inches wide, and 20 inches in height, into which the body to be cremated is pushed on an iron cradle or bier, after the retort is sufficiently heated by the fire beneath. An escape flue carries off into a tall chimney the carbon gases generated from the body during cremation. Beside the furnace-room there is a reception-room for the temporary deposit of the remains during any religious service that may be desired, and a columbarium for the urning and permanent deposit of the ashes. The publicity given to this first scientific cremation led to a profound discussion of the subject of the final disposition of the dead, and cremation societies sprang up in several of the large cities. Many were short lived, but others have continued and increased in membership. The New York Cremation Soc., incorporated 1881, Mar., has erected a crematory on Fresh Pond, just beyond the corporate limits of Brooklyn, a St. Louis Soc. has one in the suburbs of that city, and there is one also in New Orleans. Besides these there is The United States Cremation Co., Limited, which is prepared to erect and equip crematories wherever desired. The literature of the subject is extensive: see Thompson, *The Treatment of the Body after Death* (1874); Eassie, *Cremation of the Dead* (1875); Augustus G. Cobb *Earth Burial and Cremation*, N. Y., 1892.

CRÉMIEUX, *krā-me-ēh'*, ISAAC ADOLPHE: 1796. Apr. 30—1880, Feb. 10; b. Nîmes, France, of Jewish parents: lawyer and statesman. He was admitted to the bar in his native town 1817, removed to Paris 1830, and became an advocate to the court of cassation. He soon attained distinction as counsel in political cases; was summoned to Damascus to defend the grand rabbi and others accused of the murder of a Rom. Cath. priest, and secured their acquittal 1840; and was elected to the chamber of deputies, taking his seat with the radical party, 1842. After the revolution of 1848 he proposed a provisional govt., and on its establishment became minister of justice. He soon withdrew from the govt. on account of the institution of proceedings against Louis Blanc, whom he defended, but retained his seat in the assembly. He favored the election of Louis Napoleon to the presidency, but afterward opposed his measures in the assembly; was arrested at the *coup d'état* 1851, Dec. 2, but shortly released; and held aloof from political affairs till 1869, when he was elected to the corps législatif. In 1870 he opposed the *plébiscite*, and after Sedan became minister of justice in the govt. of national defense; 1873 was elected a member of the national assembly; and 1875 a life senator of the republic. He was the author of the decree which naturalized 30,000 Jews in Algeria, subscribed 100,000 fr. toward the German indemnity, and was the friend of Jews throughout the world.

CREMOCARP, n. *krēm'ō-kárp* [Gr. *kremāō*, I suspend; *karpos*, fruit]: the fruit of the umbelliferae, consisting of two one-seeded carpels suspended, when ripe, from a forked carpophore.

CREMOLOBUS—CREOLE.

CREMOLOBUS, n. *krē-mōl'o-būs* [Gr. *kremannumi*, a hang; *lobos*, the lobe of the ear; so called because the fruit, a silicule, is suspended]: genus of *Brassicaceæ*, type of the family *Cremolobidæ*. The species have racemes of yellow flowers and are natives of Peru and Chili.

CREMONA, *krē-mō'na*, It. *krā-mō'nā*: province of Lombardy, n. Italy, between the rivers Oglio and Adda, n. of the Po. It is abt. 50 m. long from n.w. to s.e., and 15 wide; 632 sq. m. The surface is level and the soil fertile. Silk is an extensive production. Pop. (1871) 300,595; (1881) 302,064; (1890) 305,214; (1901) 327,838.

CREMONA: important city of n. Italy, cap. of the province of C.; on the n. bank of the Po, here crossed by a bridge, about 48 m. s.e. of Milan. It is surrounded by walls with flanking towers and wet ditches, its circumference being nearly 5 miles. A canal uniting the Oglio and the Po passes through the city; and the latter river is navigable for large boats from this point to the sea. The streets of C. are wide and regular, and it has some fine buildings—the principal of which are the cathedral, dating partly from 1107, but in various styles of architecture; several other churches; the Palazzo Publico, Campo Santo, and the Torazzo or belfry—one of the loftiest and finest towers in Italy, 396 ft. high, commanding magnificent views over the fertile plains of Milan. By means of the Po, C. carries on considerable trade in the produce of the district; and it has manufactures of silk, cotton, earthenware, and chemicals. It was formerly greatly celebrated for its manufacture of violins, the most famous maker being Amati, in the beginning of the 18th c. Pop. (1881) 31,930; (1893) 37,400; (1901) 37,693.

CRENATE, a. *krē'nāt*, or **CRE'NATED**, a. [mid. L. *crena*, a notch; *crenātus*, notched: F. *créné*]: notched; in *bot.*, having a series of rounded marginal prominences. **CRENATURE**, n. *krē'n'ā-tūr*, in *bot.*, a notch in a leaf or style. **CRENELATE**, v. *krē'n'ē-lāt* [mid. L. *crenellātus*, furnished with loopholes: F. *crénelé*, embattled]: to provide with loopholes, as in a castellated building, through which missiles might be shot; to furnish with a parapet. **CRENELATED**, a. furnished with loopholes; in *arch.*, applied to a kind of indented molding. **CRENELLE**, n. *krē'n-él*, sometimes a battlement; usually the embrasures in a battlement (q.v.). **CRENELLÉ**, a. *krē'n-él-lā*, in *heraldry*, applied to any ordinary drawn like the battlements of a wall. **CRENULATE**, a. *-ū-lāt*, in *bot.*, having the edge slightly scalloped or notched.

CRENIC ACID, n. *krē'n'ik* [Gr. *krēnē*, a spring]: one of the constituents of vegetable mold; produced wherever leaves and other plant matter are decaying, especially in peat-bogs and marshes.

CRENILABRUS, n. *krē-nī-lā'brūs* [L. *crena*, a notch; *labrus*, an unknown fish]: genus of spiny fishes belonging to the family *Labridæ*.

CREOLE, n. *krē'ol* [F. *créole*]:—from Sp. *criollo*, a creole,

CREOPHILUS—CRESCENT.

properly, nursed, grown up—from *criar*, I breed]: in Louisiana, Sp. America, W. Indies, and Mauritius, denotes in its widest sense, any one born in the country, but of a race not native to it. It is usually applied, however, to persons born in the colony or country, of pure European blood, as distinguished both from immigrant Europeans, and from the offspring of mixed blood. In Brazil, a native, but of African parents.—CREOLE LANGUAGES are corruptions of Dutch, French, Spanish, Portuguese, English, arising in various colonies.

CREOPHILUS, n. *krē-ōf'il-ūs* [Gr. *kreas*, flesh; *philos*, a friend]: genus of beetles belonging to the order *Staphylinidæ*.

CREOSOTE: see CREASOTE.

CREPANE, n. *krē'pān*, or CRE'PANCE, n. *-pāns* [L. *crepārē*, to crack]: a chop or scratch in a horse's leg caused by the shoe on one hind-leg striking the other.

CREPIDODERA, n. *krēp-ī-dō-dēr'a* [Gr. *crēpis*, a half boot worn by men; *deros*, skin (?): genus of beetles, family *Chrysomelidæ*. It is akin to *Haltica*.

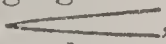
CREPIDULA, *krē-pīd'ū-la* [L. a small sandal, dim. of *repida*, a slipper or sandal]: genus of gasteropodous mollusks, family *Calyptræidæ* (Bonnet Limpets).

CREPITATE, v. *krēp'ī-tāt* [L. *crepītātus*, crackled or creaked: It. *crepitare*]: to make a small crackling noise, as salt suddenly thrown on a fire. CREP'ITATING, imp. CREP'ITATED, pp. CREP'ITA'TION, n. *-tā'shūn* [F.—L.]: a small sharp crackling noise, as salt thrown on a fire; in *med.*, a similar sound heard in inspiration at the commencement of pneumonia.

CREPT, v.: see under CREEP.

CREPUSCULARIA, n. *krē'pūs-kū-lār'i-a* [L. *crepusculum* the twilight, and pl. adj. suf. *-aria*]: tribe of lepidopterous insects, including those called Sphinxes or Hawk-moths. They are twilight fliers: see LEPIDOPTERA.

CREPUSCULE, n. *krē-pūs'kūl* [L. *crepusculum*, twilight, dusk—from *creper*, dusky, dark: It. *crepuscolo*: F. *crépuscule*]: twilight. CREPUS'ULAR, a. *-kū-lēr*, pertaining to twilight; glimmering; also CREPUS'CULOUS, a. *-lūs*, and sometimes CREPUS'ULIN, a. *-līn*. CREPUS'ULAR, a. applied to animals that are active in the dusk or twilight.

CRESCENDO, n. *krēs-sēn'dō* [It.—from L. *creresco*, I grow, I increase]: in *music*, gradual increasing of sound, or changing from piano to forte and fortissimo. It is marked thus , or with the abbreviation *cresc.* The swell of a good organ produces a perfect crescendo.

CRESCENT, n. *krēs'sēnt* [L. *crescen'tem*, growing or increasing: F. *croissant*: It. *crescente*—lit., a thing in a state of increase or growth]: the moon in the form of a curve, broad in the centre and tapering toward the two ends, called the horns; anything so shaped, as a block of buildings or houses; emblem of progress and increase; the emblem on the national standard of Turkey, in the form of a

CRESCIENT—CRESS.

hollow half-moon; the Turkish power, as the 'Crescent and the Cross;' the crescent was the emblem of the Greek before it became that of the Turkish rule; and is still seen surmounted by the cross on churches in Moscow and elsewhere in Russia: **ADJ.** growing. **CRES'CENTED**, a. adorned with a crescent; crescent-like; crescent-shaped. **CRESCEN'TIC**, a. *sən'tik*, in the shape of a crescent. **CRESCIVE**, a. *krēs'siv*, in *OE.*, increasing; growing. **CRESCENTADE**, n. *krēs'en-tād* [Eng. *crescent*; and suf. *-ade*, a word modelled after the manner of *crusade*]: a religious war waged in defense of 'the Crescent,' i.e., of the Mohammedan faith.

CRESCENT, in Heraldry, is used both as a bearing or charge, and as a difference, or mark of cadency. In the latter case, it designates the second son, and those that descend from him. See **CADENCY**.

CRESCENT, TURKISH ORDER OF THE: order of knight-hood conferred by the sultan. In 1799, after the battle of Aboukir, Sultan Selim III. testified his gratitude to Nelson by sending him a crescent richly adorned with diamonds. It was not intended as an order, but Nelson wore it on his coat, and called himself the knight of the C. Selim was flattered by the value attached to his gift, and resolved, 1801, to found the Order of the Crescent. Mohammedans being forbidden in the Koran to carry such marks of distinction, the order is conferred only on Christians who have done service to the state. See **MEDJIDIE, ORDER OF**.—There was an old order of the C., instituted by René, Duke of Anjou, 1464.

CRESCEN'TIA: see **CALABASH TREE**.

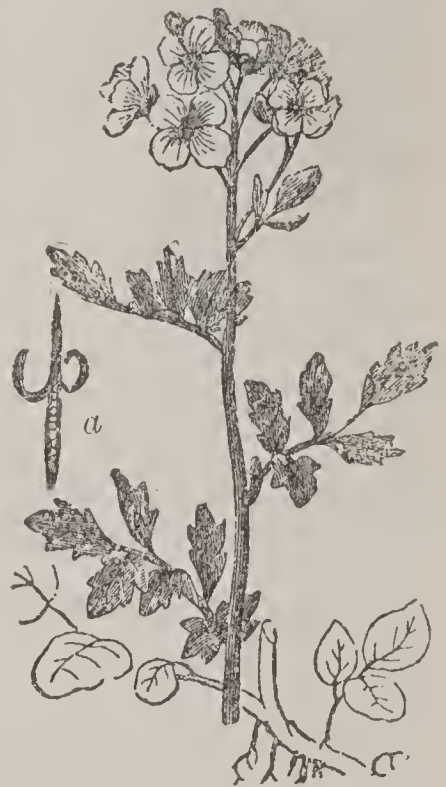
CRESS, n. *krēs* [AS. *cæse*; Dut. *kerse*; Ger. *kresse*; Sw. *krasse*, a cress: comp. F. *cresson*, a cress—from L. *crescēre*, to grow—*lit.*, a plant which grows quickly]: salad-plant.—Cress is a name given to many plants of which the foliage has a pungent, mustard-like taste and is used as a salad. It is sometimes more strictly confined to the genus *Lepidium*, genus of the nat. ord. *Crucifere*, having small white flowers, and oblong or rounded laterally compressed pouches (silicules), with the cells one-seeded, and the valves keeled or winged on the back. The **COMMON C.**, or **GARDEN C.** (*L. Sativum*), is an annual, native of the East, frequently cultivated in gardens, and used young as a salad; being easily procured in a few weeks from the time of sowing, and, by the aid of a little artificial heat, even in winter. There is an esteemed variety with curled leaves. Like most other plants of similar pungent taste, particularly those of the order *Crucifere*, the garden C. is powerfully antiscorbutic. Still more pungent, and almost like pepper in taste, is its congener, **PEPPERWORT**, *Dittander*, or *Poor Man's Pepper* (*L. latifolium*), found in wet places near the sea, and occasionally used as a condiment. It was formerly in high repute as a remedy for various diseases. **VIRGINIAN C.** (*L. Virginicum*) resembles the garden C. in its properties, is eaten as a salad, and used as a diaphoretic medicine in N. America and the W. Indies. *L. piscidium*, native of the South Sea Islands, is there used to stupefy fish;

CRESS.

it is also one of the plants used by sailors for prevention or cure of scurvy. The name WINTER C. is given to species of the genus *Barbarea*, also cruciferous biennial or perennial plants, with racemes of yellow flowers, quadrangular pods, and lyrate or pinnate leaves. The Common Winter C. (*B. vulgaris*), formerly known as Herb St. Barbara, is plentiful in moist pastures throughout Europe and N. America. It is occasionally cultivated as a winter salad; in Sweden it is used as a boiled vegetable. Its pungency is combined with some degree of bitterness. A double variety is common in flower-borders, and bears the name of YELLOW ROCKET. Very similar to this, and also occasionally cultivated, is the Early Winter C., or AMERI-



Cress (*Lepidium Sativum*):
a, silicle.



Bitter Cress (*Cardamine
amara*):
a, silique, opening.

CAN C. (*Barbarea præcox*), native also of Britain, the continent of Europe, and N. America. BITTER C. (*Cardamine*) is another cruciferous genus, with linear pods, and flowers sometimes of considerable beauty, as in the common Bitter C. or Cuckoo-flower (*C. pratensis*), known also by the name Lady's Smock—a very common ornament of moist meadows in Britain, with white, blush-colored, or light purple flowers; the flowers of which are stimulant and diaphoretic, and had at one time high reputation for the cure of epilepsy, particularly in children, and still retain a place in the pharmacopœias. The young leaves of this species, as well as of *C. amara*, a species with still more beautiful flowers, and *C. hirsuta*, a small flowered species, are used as salads, especially on the European continent; they are pungent with a little bitterness. The leaves of *C. amara* are

CRESSELLE—CRESSON.

brought to market in large quantities in Bohemia and Saxony. The juice of *C. pratensis* is much used as an anti-scorbutic in the north of Europe, to counteract the effect of the constant use of salted meat and salted fish.



Water-Cress (*Nasturtium officinale*).

WATER C. (*Nasturtium officinale*) is a perennial aquatic cruciferous plant, much used as a spring salad. The genus *Nasturtium*, which contains a considerable number of species, has a spreading calyx, and a nearly cylindrical pod. *N. officinale* is a native of almost all parts of the world. The leaves have a pungent bitterish taste, with a little saltiness. They possess medicinal properties similar to those of SCURVY-GRASS. In favorable weather, they may be procured in winter as well as in spring, and may be frequently cut over during a season. The plant is cultivated to some extent in wide ditches filled with slowly flowing and pure water. It

grows best in clear shallow running water, with a bottom of sand or gravel. Mud is injurious both to its growth and to the flavor of its leaves. For INDIAN CRESS, see TROPÆOLUM.

CRESSELLE, n. *krēs-sel'* [F. *crécelle*, a rattle]: in *Rom. Cath. Ch.*, a rattle used in the three last days of Holy-week instead of bells.

CRESSET, n. *krēs'sët* [Dut. *kruysel*; OF. *croiseul*, a hanging lamp: F. *creuset*, a melting-pot—from OF. *crasset*, a cresset: connected with *crook*, *cruet*, *cruise*, and *crucible*]: a large open lantern or pot fixed on a pole, and filled with combustible materials; a great light set on a beacon or watch-tower; the grating within which the light or fire is kindled. The name is by some ascribed to the fact that beacons formerly were often surmounted by the cross.

CRESSON, *krēs'on*: village and popular summer resort of Cambria co., Penn., on the Penn. railroad, 15 m. s.w. of Altoona, 102 m. east of Pittsburg, 252 m. by n. of Philadelphia. It is on the summit of the Alleghany Mountains, 2,300 ft. above the sea, is provided with numerous hotels, and has excellent drives and several springs of mineral water in its vicinity.

CRES'SON, ELLIOTT: 1796, Mar. 2—1854, Feb. 20; b. Philadelphia: philanthropist. From an early age he applied himself to the task of ameliorating the condition of the Indians and negroes. He established the first colony of liberated American slaves on the Grain coast of w. Africa,

CRESSY—CREST.

became pres. of the Penn. Colonization Soc., and in its interests made tours of New England 1838-9, the Southern states 1839-40, and Great Britain 1840-42, 1850-53. He made a large fortune in mercantile business, and bequeathed over \$150,000 for benevolent purposes.

CRESSY: see CRECY.

CREST, *n.* *krĕst* [OF. *creste*—from *L. crista*, the tuft or plume on the head of birds: akin to *Gr. keras*, a horn: *It. cresta*]: the plume of feathers or a like ornament on the top of an ancient helmet; the helmet itself; the comb or tuft of feathers on the head of a bird; pride; courage; the figure or device that surmounts a coat of arms; the foamy top of a wave; the highest part of a hill or ridge; in *mil.*, the line which marks the top of a parapet: *V.* to mark as with a crest; to adorn with as a crest. CREST'ING, *imp.* CREST'ED, *pp.*: *ADJ.* adorned with a tuft or crest; in *heraldry*, applied to a cock or other bird, having its comb of a different tincture from its body—said to be crested of such a tincture (naming the tincture). CREST'LESS, *a.* CREST'FALLEN, *a.* dispirited; dejected—in allusion to the flabby appearance of the crest or comb of a defeated cock.

CREST, in *Heraldry*: device surmounting a coat of arms. Though popularly regarded as the most important feature in heraldic emblems, the C., in the eyes of heralds, is an external adjunct to the shield, without which the bearing is complete, and which may consequently be altered without materially affecting its significance. Occupying the highest place on the helmet (see illustration), it is the member of the bearing by which the knight was commonly known in battle; hence, to it the term *cognizance* (from *cognosco*, to know) is properly given. Its claim to a classical origin is probably better than that of any other portion of coat armor. Jupiter Ammon is represented as having borne a ram's head on his helmet, and Mars the figure of a lion or tiger. Alexander the Great, on the pretence that he was sprung from Jupiter, assumed the ram's head; and Julius Cæsar bore a star, to denote that he was descended from Venus. The helmet, as represented on ancient statues and gems, was frequently adorned with a crest. Sometimes it was of horse-hair; at other times a lion or other animal was placed on the helmet, either erect or couchant.

Newton, in his *Display of Heraldry*, says that the first C. found in the monuments of English chivalry, is that on the great seal of Richard Cœur de Lion. The helmets in this instance, and in that of Roger de Quincy, Earl of Winchester, differ in form from those afterward used, the C. occupying a much larger space. Crests are said to have come into general use about the time of Henry III., and to have been used as marks of distinction by commanders in the holy wars, as



Helmet and Crest of
Roger de Quincy,
Earl of Winchester.

CREST.

they had formerly been by the Roman centurions. For lightness they were often made of stuffed leather, gilt, silvered over, or painted—which explains their greater size then than in later times, when they were made either of wood or metal. The earliest example of the wreath on which the C. is now invariably placed, is that on the monument of Sir John Harsick. It consisted of two pieces of silk, of the colors of the armorial bearings of the wearer, twisted together by the lady who had chosen him for her knight. Though crests are now invariable appendages to shields, and many of them are appropriated to particular families by hereditary descent, they are believed to have been originally assumed at the pleasure of the wearers; and they are even now less strictly under the cognizance of the heralds than the devices on the shield, which must always be assigned by competent authority. Crests are so various that a classification of them is scarcely possible. The following is an abridgment of that given by Newton, who has written very fully on the subject in his *Display of Heraldry*. The most ancient class of crests he believes to have consisted of ferocious animals, regarded as figuratively representing the bearer and his pursuits. Secondly, they were devices assumed as memorials of feats of chivalry, and for perpetuating traditions and family legends, either in addition to, or differing from, those represented on the shield. Thirdly, they served only to give a more prominent place to objects already represented on the shield. Fourthly, they commemorated religious vows, or expressed the religious or knightly aspirations of the bearer. Fifthly, they were mere whims, and were adopted for no definite reason. As the same C. might be adopted by persons not only unconnected by family, but of different names, they no longer served the purpose of distinction when separated from the shield. To this latter class belong the vast majority of modern crests assumed at the suggestion of seal-engravers and coach-painters.

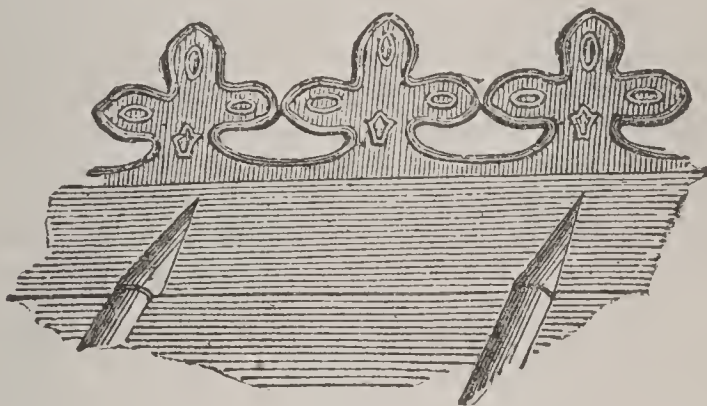
The lion assumed by Richard I., during the crusade in the Holy Land, to express the bravery for which he was proverbial, was borne by Edward III., Henry VII., Edward VI., and James I.; and since that time has been recognized as the appropriate C. of the royal family of England. In early times, the same C. was not always borne even by the same person. Besides the lion, Edward III. occasionally bore a white raven crowned; and other monarchs made use of similar additions. Anciently, the nobility mostly bore plumes of feathers. But several of the Earls of Warwick, of the Beauchamp family—the last of whom died 1445—bore for C. a bear with a rugged staff muzzled, collared, and chained, as still seen on signs (see woodcut). The origin of the wreath has been already mentioned. It is now represented as consisting of two stripes of gold



CRESTE—CRESYLIC ACID.

or silver lace, twisted into a circular cord. Its tinctures are always those of the principal metal and color of the arms. It is a rule in delineating the wreath, which is shown edgewise above the shield, that the first coil shall be of metal, and the second of color. Civic, triumphal, and other crowns were used as wreaths; and this practice is supposed to have given rise to the use of coronets, out of which crests are sometimes represented as issuing, even in the case of persons who are not noble.

CRESTE, in Architecture: ornamental finishing, either carved in stone, or of tiles along the top of a wall, or the ridge of a roof. *Crest-tiles*, or, as they are corruptly called, *Cress-tiles*, or *Crease-tiles*, are frequently in the form



Crest-tiles.

either of small battlements or Tudor flowers, as in the accompanying illustration from Exeter Cathedral: see *Cops*.

CRESTON, *krēs'ton*: city of Union co., Ia., on the Chicago Burlington and Quincy railroad; 52 m. e. of Red Oak, 115 w. of Ottumwa, 190 w. of Burlington. It has 3 national banks, 6 churches, 2 newspapers, 2 wagon-factories, a graded school, and large railroad machine shops and car works. Pop. (1870) 1,819; (1880) 5,081; 1890 7,200; (1900) 7,752.

CRESWICK, *krēs'wīk*, THOMAS, R.A.: 1811–69; b. Sheffield: one of the best and most popular of recent English landscape-painters. In his 17th year he removed to London, to study drawing and painting; but already he had so far advanced, that two of his pictures were, during that year, admitted into the Royal Acad. exhibition. C. loved to paint the beautiful streams, and glens, and wooded dells of his native land. His landscapes present the freshness of nature. Among his greatest works are *England, London Road a Hundred Years Ago*, and the *Weald of Kent*. His knowledge of aerial perspective was unsurpassed. C. painted also some admirable sea-side studies. He was elected assoc. of the Royal Acad. in 1842, and R.A. 1851.

CRESYLIC ACID, n. *krēs-īl'īk* [from *creasote*; and Gr. *hulē*, matter of which a thing is made]: an acid obtained from creasote, a good antiseptic and disinfectant.

CRETACEOUS—CRETACEOUS SYSTEM.

CRETACEOUS, a. *krē-tā'shŭs* [L. *cretācēŭs*, chalky—from *creta*, chalk]: composed of chalk; chalky.

CRETA'CEOUS SYSTEM, or CHALK FORMATION, in Geology: the upper strata of the Secondary series, immediately below the Tertiary beds, and resting on the Oolite. This group is separated from the Eocene Tertiary beds by a decided change in both the rocks and fossils. The Eocene strata rest unconformably upon the chalk; it is, however, more than probable that a number of beds may yet be discovered to fill up the apparent gap in the sequence of the rocks.

The C. S. covers a large surface in Europe and the east of Asia; beds of the period are extensive also in N. and S. America. The typical strata occur in the south-east of England, and are connected with similar beds in the north of France and Germany, and in Denmark. Indeed, the bed of the German Ocean seems to be composed of rocks of this group, as is evidenced by the masses of chalk and flint thrown on the shores of Scotland after storms.

The strata of the group have been arranged in the following order. The maximum thickness of the divisions is given in feet.

					Feet.
UPPER	{	1. Maestricht,	.	.	100
		2. Chalk with Flints,	.	.	500
		3. Chalk without Flints,	.	.	600
		4. Chalk Marl,	.	.	100
		5. Upper Greensand,	.	.	100
LOWER	{	6. Gault,	.	.	150
		7. Lower Greensand,	.	.	850
		8. Wealden beds,	.	.	1300

1. The Maestricht beds (q.v.) consist of pisolitic limestones in the north of France, and of loose yellowish sandstones in Holland. 2. The chalk with flints is a great mass of pure white pulverulent limestone, usually too soft for a building-stone, but sometimes passing into a more solid state. It occurs in beds of great thickness, with the stratification often obscure, except when rendered distinct by interstratified layers of flint a few inches in thickness, occasionally in continuous beds, oftener in nodules, and recurring at intervals of two to four ft. from each other. Iron pyrites is found frequently in these beds in radiated nodules; it readily decomposes, and produces rusty stains on the rock. 3. Chalk without flints; this differs from the upper chalk only in the want of flints. 4. Chalk Marl; the white chalk, by the gradual admixture of argillaceous matter, becomes hardened, until it passes into a pale buff-colored marl or argillaceous limestone, sometimes of sufficient compactness to be used as a building-stone. 5. Upper Greensand (see GREENSAND), composed of alternating layers of sands, clays, and limestones, occasionally colored with green particles of a chloritic mineral. 6. Gault (q.v.), a stiff dark clay, used for brickmaking, with many beautifully preserved shells. 7. Lower Greensand (q.v.), so like petralogically to the Upper Greensand, that when the intervening Gault is absent, it is impossible to separate them, except by their organic contents. The Specton Clay, a

CRETACEOUS SYSTEM.

local Yorkshire bed of dark clay, is of the same age. 8. Wealden (q.v.), divided into the two groups, the Wealden clay and Hastings sand, consists of a great series of shales and sandstones, with scattered beds of lime and ironstone.

The most remarkable petralogical characteristic of the group is the chalk, which exists in such abundance as to have given its name to the formation. It is a white, soft, and pulverulent limestone, consisting almost entirely of carbonate of lime; the only foreign matter in any quantity being silex, which is aggregated together in an amorphous condition, in nodules or layers of flint. Occasional pebbles are found, but they are extremely rare. Chalk was formerly supposed to be a chemical precipitate: the microscope has, however, shown it to be composed of minute shells mixed with the broken fragments of larger ones; and, very recently, the use of an improved deep-sea sounding apparatus has revealed a sediment now accumulating in many places, which agrees in every point, save solidity, with the chalk. When a piece of white chalk is rubbed down to powder with water, by means of a soft brush, and the powder examined by the microscope, it will be found that the greater portion consists of shells of the minuter kinds of Foraminifera, mixed with the disintegrated prisms of Pinna or other large shells of like structure, the shells of Cytherina, a marine Entomostracan, and probably a few Diatoms. Deep-sea soundings have disclosed a formation precisely similar, taking place at the present time. Of some gatherings from the great Atlantic plateau, obtained at a depth of two miles, Prof. Bailey says: 'I was greatly delighted to find that *all* these deep soundings are filled with microscopic shells; not a particle of sand or gravel exists in them. They are chiefly made up of perfect little calcareous shells (Foraminifera), and contain also a small number of siliceous shells (Diatomaceæ).' The occurrence of pebbles in the chalk can easily be accounted for, if we suppose them to have been floated in, attached to the roots of trees, or more probably to sea-weeds. It is more difficult to account for the origin of the flint. Prof. Bailey found that some seas, especially in the Arctic regions, supplied an enormous quantity of the siliceous frustules of the Diatomaceæ, and spicules of sponges. That such organisms may have been converted into the flint nodules seems very probable, when we remember that many of the nodules have the external conformation of sponges, and show occasionally also the internal structure. Mr. Bowerbank's microscopic examination of flint nodules, seems to lead to the conclusion that all flints are produced from the siliceous skeletons of organic beings. Chalk, then, seems to have been a deposit in very deep seas, far out of the reach of land-currents, which would certainly have brought with them argillaceous and arenaceous debris.

The C. S. is highly fossiliferous. The remains of plants are abundant in the fresh-water Wealdon beds; among them have been found fragmentary portions of dicotyledons. Except the microscopic Diatomaceæ, frequent in the white chalk, vegetable remains are rare in the

CRETACEOUS SYSTEM.

other members of the group. The various divisions of the animal kingdom are represented in the organic remains of the chalk, except the warm-blooded vertebrata, which have hitherto—if they existed—escaped notice. Foraminifera were enormously abundant in the seas, and active in the secretion of the soluble carbonate of lime, fixing it in their minute shells, which, after their death, as has been shown, formed the principal material of the chalk. In the lower beds, Polyzoa have been found in great abundance on the continent. Echinoderms are in immense numbers, and beautifully preserved. Crustacea are occasionally found. Of mollusea, the Brachiopoda and Cephalopoda are especially abundant, both being pelagic types. Ctenoid and Cycloid fishes appear in this group for the first time, though yet in small numbers—the Placoids and Ganoids being still the predominant forms. Reptiles, though not so numerous as in the former period, were yet far from rare. For further details of the fossils, see DIATOMACEÆ: VENTRICULITES: FORAMINIFERA: TEREBRATULA: RHYNCHONELLA: HIPPURITES: AMMONITES. PTYCHODUS: MOSOSAURUS: PLESIOSAURUS: ICHTHYOSAURUS: PTERODACTYL: etc.

In the United States and other parts of the American continent, the C. S. is distinguished by an absence of the pure chalk of w. Europe, and the presence of vast beds of greensand or marl, composed of mineral glauconite. It is largely developed along the e. coast of the United States from Mass. to the Rio Grande river, in the s. from Ky. to the Gulf of Mexico, in the w. from Tex. to Dak. Terr., and between the Miss. river and the Rocky Mountains, along the Pacific coast as far n. as Vancouver's Island, and in the extreme n. in the vicinity of the Mackenzie river. It exhibits three distinct forms, viz.: marl in N. J., limestone in the Gulf region and in many places in the w., and coal in Col., New Mex., Wyo. Terr., Utah, and Vancouver's Island. In thickness the deposits vary from 500 ft. in N. J. to 800 in Tex., 2,000 in Alabama, somewhat more than that in the n.w., and 9,000 in the Rocky Mountain region. The organic life of the system is represented by fossils of flora and fauna including 100 species of the earliest forms found on the continent, a large proportion of which are similar to the forms of the present day, such as the beech, maple, palm, oak, willow, fig, tulip, hickory, sassafras, etc.; by at least 15 species of mollusea; nearly 100 species of fish; 40 species of sea serpents; 9 species of birds; and a great number and variety of reptiles. The sea saurians frequently measured 50 ft. in length; there were some sea serpents with a length of 75 ft. and four rows of teeth; a pterosaur found in Kan. measured 26 ft. from tip to tip of expanded wing; and the remarkable specimen of the hadrosaurus discovered in Haddonfield, N. J., 1858, and now in the Central Park Museum, New York, both in original and restored forms, measures between 25 and 30 ft. from tip of nose to end of tail. The birds included swimmers, waders, and an extinct form representing the three orders of bird, fish, and reptile.

CRETAN—CREUSE.

CRETAN, n. *krě'tăn* [Gr. *Krētē*, Crete; *krētikos*, pertaining to Crete]: an inhabitant of the island of Crete or Candia. **CRETIC**, n. *krě'tík*, a poetic foot of a short syllable between two long, thus — —. **CRETISM**, n. *krě'tizm* [Gr. *kretismos*, lying]: the practice of the Cretans; a falsehood.

CRETE: see **CANDIA**.

CRETINISM, n. *krě'tîn-izm* [F. *crétin*, a word of Swiss origin, and the same as F. *chrétien*, a Christian]: a peculiar kind of idiocy, attended with deformity, that prevails in districts about the Alps and other mountains; the disease called goitre. **CRE'TIN**, n. *-tîn*, one of the deformed idiots of the Alpine territories. *Note*.—*Cretins* were so called because, being baptized and idiots, they were not only washed from original sin, but were incapable of actual sin; similarly we call idiots 'innocents' in popular language.—The term Cretinism is now applied in a more general sense to idiocy, or defective mental development depending upon local causes, and associated with bodily deformity or arrested growth. C. is very often found in connection with Goitre (q.v.), in the lower Alpine valleys, not only of Switzerland and Italy, but of the Pyrenees, Syria, India, and China. In Europe it rarely occurs at a higher elevation than 3,000 ft., and infests chiefly the valleys surrounded by high and steep walls of rock, which exclude the light, and limit the free circulation of air. Cretins are always pitiable, and frequently repulsive; they are generally dirty, shameless, and obscene; their appetite is commonly voracious; the mouth is large and open, the tongue often protruded, the eyes small, the nose flat and broad, the skull narrow and small in all its dimensions, the forehead retreating, the complexion cadaverous; in addition to which, the whole body is dwarfish, the hands and feet large, the limbs often rickety, the belly protuberant. The cause of C. is imperfectly understood; the recent researches of Virchow tend to the conclusion that it is a physical degeneration, dependent on the reception of an undue amount of calcareous matter into the system; and this agrees with the general result of numerous observations previously made, as to the prevalence of goitre and C. in places where calcareous waters are only accessible to the inhabitants. See **GOITRE**. Many attempts have been recently made to improve the condition of the cretin in childhood, by removing him from the locality of his birth, and by careful training; the institution founded by Dr. Guggenbühl on the Abendberg (q.v.), near Interlaken in Switzerland, having been the prototype of many others on the continent; and of some in England and Scotland, for the education of idiots.

CRETONNE, n. *krě-tôn'* [F. linen cloth—said to be named after the inventor]: a fabric woven with flax and hemp; a woven, flowered material of fine wool or cotton, used for curtains, bed-furniture, etc.

CREUSE, *kréz*: river in the centre of France. It rises in the mountains on the s. border of the dept. of C., and flows in a generally n.n.w. direction through that dept.,

CREUSE—CREUZOT.

then a n. and w. through Indre, and dividing the departments Vienne and Indre-Loire, falls into the Vienne, a tributary of the Loire, about 12 m. n. of Chatellerault, after a course of about 150 miles.

CREUSE: department of France, named from the river C.; lat. 45° 39'–46° 26' n., and long. 1° 24'–2° 36' e.; abt. 2,150 sq. m. Low mountains and chains of hills occupy the greater part. The streams, with the exception of the C., are insignificant. The climate is moist and variable, and the soil thin and light in the southern hilly district, which is interspersed with stretches of heath and pasture, but better in the lowlands of the north-east. The products are rye, buckwheat, oats, and potatoes; but agriculture is backward, and the rearing of cattle is the chief rural industry. Large quantities of chestnuts and fruit are grown. The minerals are not important. The people of C. are slightly educated, and use a coarse patois; but are generally industrious, and annually migrate in large numbers to find work in various parts of France. C. is divided into the arrondissements Aubusson, Bourgueuf, Boussac, Guéret, with Guéret for its capital. Pop. of C. (1872) 247,663; (1881) 268,131; (1900) 277,831.

CREUX, n. *kró* [F. *creux*, hollow—from mid. L. *crosum*—from L. *corrōsus*, gnawed or eaten into]: anything engraved or sculptured by excavation or hollowing out—the reverse of *relief*.

CREUZER, *kroyt'sér*, GEORG FRIEDRICH: 1771, Mar. 10—1858, Feb. 15; b. Marburg: german philologer. He studied at Marburg and at Jena. In 1802, he was appointed prof. at Marburg, and in 1804 obtained the chair of Philology and Ancient History at Heidelberg, which he occupied 44 years. In 1848, he retired into private life, and died at Heidelberg.

C.'s whole life was devoted to the study of antiquity. His first, and probably his greatest work, was *Symbolik und Mythologie der alten Völker, besonders der Griechen* (4 vols. Leip. 1810–12). This treatise, which asserted the symbolical character of ancient mythologies, excited a lively controversy, in which Hermann and Voss appeared as the opponents of Creuzer. His work next in importance was a complete edition of the works of Plotinus (3 vols. Oxford 1835). With G. H. Moser, C. edited several works of Cicero—*De Natura Deorum* (1818), *De Legibus* (1824), *De Republica* (1826), and *De Divinatione* (1828), etc. He published 1837–48 a partial collection of his writings in 10 vols. (*Deutsche Schriften*. Leip. and Darms.), the last of which contains an autobiography of C. under the title *Aus dem Leben eines Alten Professors*. He was also the writer of essays on archeological topics too numerous to be mentioned. In 1854 appeared *Friderici Creuzeri Opuscula Selecta*.

CREUZOT, *léh-kréh-zō'*: town of France, dept. of Saone-et-Loire, 12 m. s.s.e. of Autun. It is in the midst of a district rich in coal and iron, and has large iron-foundries, which turn out cannon, anchors, steam-machinery, etc.,

and which employ 10,000 workmen. There is also a glass manufactory. Pop. (1881) 15,740; (1901) 30,584.

CREVASSE, n. *krě-văs'* [F. *crevasse*—from *crever*, to burst]: a deep crevice—usually applied to rents in glaciers.

CRÈVECOEUR, *krěv-kér'* (*Heart-breaker*): Dutch port in the province of North Brabant, on the left bank of the Meuse, where this river receives the Dieze, about 4 m. n.n. w. of Bois-le-Duc. It figures somewhat prominently in the wars of the Dutch and Spaniards.

CRÈVECŒUR, *krāv-kér'*, HECTOR SAINT JOHN DE: 1731–1813; b. Caen, France: author. He studied agriculture and political economy in England, removed to the United States 1754, and engaged in farming near New York. He suffered severely from British marauders during the occupation of New York, was several times compelled to flee for his life, and when about to sail for Europe with the permission of the British authorities was arrested as a spy and held three months. He returned to the United States as consul-gen. of France 1783, and was cordially received by Washington and others. He was author of *Lettres d'un cultivateur Américain* (3 vols. Paris 1784); *La culture des pommes de terre*; and *Voyage dans la haute Pensylvanie et dans l'état de New York* (2 vols. Paris 1801). He introduced the cultivation of American potatoes in Normandy.

CREVICE, n. *krěv'is* [F. *crevasse*, a burst, a gap—from L. *crepārē*, to crack]: a crack; a rent; an opening.

CREVILLENTE, *krā-věl-yěn'tā*: town of Spain, province of Alicante, about 20 m. w.s.w. of the city of that name. It is at the foot of the hills forming the boundary of Murcia; has a population of about 8,000. The people are chiefly engaged in weaving and in agricultural pursuits. Pop. abt. 8,000.

CREW, n. *kró* [Icel. *krú*, a swarm: W. *crowd*, a round lump: Dut. *kruyden*, to thrust, to crowd forward: Lith. *kruwa*, a heap, as of stones or people—*crew* is connected with *crowd* and *curd*: comp. Gael. *crò*, a circle, a group of children]: a circle or company associated for any purpose; the body of seamen that man a ship; applied in a bad sense to a company or band of persons.—SYN.: band; company; gang; association; society; throng; assemblage.

CREW, of a Ship: collective name for all the persons employed therein, but usually limited to designate petty officers and seamen only. In men-of-war, the entire C. are divided into five groups: 1. Commissioned and warrant officers; 2. Chief petty officers; 3. First-class working petty officers; 4. Second-class working petty officers; 5. Able seamen, ordinary seamen, landsmen, and boys. In the very largest war-steamers now afloat, there are upward of 152 different ranks, grades, or offices among the crew, excluding officers and marines. In sea-going passenger and freight steamers, the number of hands is relatively greater than in sailing vessels, owing to the various duties

CREW—CRIBBAGE.

relating to the machinery; a steamer of 1,000 tons will have as many as 60 or 70 hands, if bound for a long voyage.

CREW, *v.* *kró*: see under CROW.

CREWE, *krū*: town in the south of Cheshire, forming a central station of five important railways, to which it owes its present importance. The inhabitants are chiefly employed in the railway stations, and in the manufacturing of railway carriages and locomotives. About 1840 there were only two or three houses where Crewe now stands. The London and North-Western Railway Co. have erected a handsome church, and a large mechanics' institute, containing an assembly-room. Pop (1871) 17,810; (1881) 24,372; (1891) 28,761.

CREWEL, *n.* *kró'ěl* [Ger. *knäuel*; Low Ger. *klevel*, a ball of thread]: two-threaded worsted yarn loosely twisted. CREWEL-WORK, fancy needle-work, consisting of fine colored wool and silk threads stitched in designs on a backing of any material.

CREWELS, *n. plu.* *kró'ělz*: see CRUELS.

CREWKERNE, *krū'kérn*: town in the s.e. of Somersetshire, in the fertile valley of the Parret and Isle, 10 m. s.s. w. of Ilchester, and surrounded by a wide amphitheatre of highly cultivated hills. The chief manufactures are sail-cloth, sacking, hair-seating, webbing, and girths. Its weekly markets, and annual fair, Sep. 4, for sheep, cattle, and horses, are much frequented and well supplied. The word C. means 'hermitage of the cross.' Pop. 4,000.

CREX, *n.* *krěks* [imitated from the voice of the bird]: genus of grallatorial birds, family *Rallidæ*, sub-family *Rallinæ*. *Crex pratensis* is the Corn-crake (q.v.).

CRIB, *n.* *krīb* [Dut. *kribbe*; Icel. *krubba*; Ger. *krippe*, a crib, a manger: W. *crib*, a comb; *cribin*, a rake]: the rack or manger out of which cattle feed; any small building; a bed or sleeping-place, chiefly applied to one occupied by a child; often used to signify a book for unfairly assisting schoolboys in the preparation of lessons: V. to shut or confine in a small space; to appropriate small articles secretly; to pilfer. CRIB'ING, *imp.* CRIBBED, *pp.* *krībd*, shut up; confined. CRIB-STRAP, *n.* a neck-throtter for crib-biting and wind-sucking horses.

CRIB'BAGE: game with cards, played by two, three, or four persons, the whole pack being used. When three are engaged, each plays for himself; when four, they take sides. The value of the cards is the same as at whist; but there are no trumps. The number of cards dealt is usually five or six, the mode of playing the game varying slightly with the number of cards used. The points are scored on a board with holes for pegs, and 61 constitutes game. The terms used in the game are as follow: *Crib*, the cards laid out by each party, the points made by them being scored by the dealer. *Pairs* are two similar cards, as two aces or two kings; they reckon for two points, whether in hand or playing. *Pairs royal* are three similar cards, and reckon six points. *Double pairs royal* are four similar cards,

CRIBBITING-CRICHTON.

and reckon twelve points. These various points are thus made: if your adversary plays a seven, and you another, a pair is made, which entitles you to two points; if he then play a third seven, he makes a pair royal, and marks six; and if you play a fourth seven, it constitutes a double pair royal, and entitles you to twelve points. *Fifteens*.—If any combination, whether of two or more cards, in your hand, or in play, make together fifteen, such as a ten and a five, a two, a five, and an eight, etc., you reckon two points. *Sequences* are three, four, or more successive cards, and reckon for an equal number of points; and in playing a sequence, it is of no consequence which card is played first; for instance, if your adversary plays an ace, and you a five, he a three, you a two, and he a four, he scores five for the sequence. *Flush* is when the cards are all of one suit, and reckons for as many points as there are cards. A knave of the same suit as the turn-up card counts for one in any hand. If a knave be turned up, it counts two for the dealer. For full directions for playing the game, see *Chambers's Information for the People*, article 'Indoor Amusements.'

CRIBBITING: bad habit occurring especially in the lighter breeds of horses, and those spending much leisure in the stable. The act consists in the animal seizing with his teeth the manger, rack, or any other such object and taking in at the same time a deep inspiration, technically called *wind-sucking*. C. springs often from idle play, may be first indulged in during grooming, especially if the operation is conducted in the stall, and the animal be needlessly teased or tickled; is occasionally learned, apparently, by imitation from a neighbor; and in the first instance is frequently a symptom of some form of indigestion. Its indulgence may be suspected where the outer margins of the front teeth are worn and rugged, and will soon be proved by turning the animal loose where he can find suitable objects to lay hold of. It usually interferes with thriving and condition, and leads to attacks of indigestion. It can be prevented only by the use of a muzzle or throat-strap; but in those newly acquired cases that result from gastric derangement, means must further be taken to remove the acidity or other such disorder.

CRIBBLE, n. *krīb'l* [F. *crible*, a sieve—from L. *cribrum*, a sieve: It. *cribrare*]: a coarse sieve used for corn, sand, or gravel; a coarse flour or meal: V. to cause to pass through a coarse sieve. **CRIBBLING**, imp. *-līng*, sifting. **CRIBBLED**, pp. *krīb'ld*, sifted. **CRIBROSE**, a. *krīb'rōz*, or **CRIB'RIFORM** a. *-rī-faerm* [L. *forma*, shape]: in *bot.*, pierced with little openings like a sieve.

CRIBRATOIRES, n. plu. *krī-brā-tōr'ēz* [L. *cribro*, to sift; so called from the way in which the birds take their food]: Macgillivray's name for a section of the wading birds. It contains the geese and ducks.

CRICE'TUS: see **HAMSTER**.

CRICHTON, *krī'tn*, JAMES, surnamed the 'ADMIRABLE': b. Scotland, 1551 (or 1560). His father, Robert Crichton of Elliock, in the county of Perth, was Lord Advocate

CRICK—CRICKET.

of Scotland, 1561-73. On the mother's side, C. was descended from the old Scottish kings, a descent of which he used to boast on the continent. He was educated at St. Andrews University. Before he reached his 20th year, he had, it seems, 'run through the whole circle of the sciences,' mastered ten different languages, and perfected himself in every knightly accomplishment. Thus panoplied in a suit of intellectual armor, C. rode out into the world of letters, and challenged all and sundry to a learned encounter. If we can believe his biographers, the stripling left every adversary who entered the lists against him *hors de combat*. At Paris, Rome, Venice, Padua, Mantua, he achieved the most extraordinary victories in disputation on all branches of human knowledge, and excited universal amazement and applause. The beauty of his person and the elegance of his manners also made him a great favorite with women; while, as if to leave no excellence unattained, he vanquished, in a duel, the most famous gladiator in Europe. The Duke of Mantua, in whose city this perilous feat was performed, appointed him preceptor to his son, Vincentio di Gonzago, a dissolute and profligate youth. One night, during the carnival, C. was attacked in the streets of Mantua by half-a-dozen people in masks. He pushed them so hard that their leader pulled off his mask, and disclosed the features of the prince. With an excess of loyalty which proved his death, C. threw himself upon his knees, and begged Vincentio's pardon, at the same time presenting him with his sword. The heartless wretch plunged it into the body of his tutor. Thus perished, in the 22d year of his age, the 'Admirable Crichton.'

What measure of truth is in the hyperbolical eulogies of his biographers, it is impossible to determine, as C. left no writings by which they can be judged.

CRICK, n. *krík* [from *creak*]: a familiar term for a painful stiffness in neck or back.

CRICKET, n. *krík'èt* [Dut. *krieken*, to chirp: F. *criquet*, a field-cricket—from OF. *criquer*, to creak, to rattle—an imitative word] (*Gryllus*; *Acheta* of some naturalists): genus of orthopterous insects, of the section *Saltatoria* (in which the hinder legs are long, very strong, and formed for leaping), allied to locusts and grasshoppers; type of a family *Gryllidæ* or *Achetidæ*. The wings are folded horizontally, and form, when closed, a slender thread-like acumination beyond the wing-covers. It is supposed to be by friction of the wing-covers against each other, and from a peculiarity of their structure, that the males produce the stridulous sound which makes these insects so well known. The antennæ are long and thread-like, inserted between the eyes. The best known species is the HOUSE C. (*G. domesticus*), about an inch long, with antennæ of almost an inch and a half, of a pale-yellowish color, mingled with brown. It is widely distributed. Its very frequent abode is in nooks and crevices of houses, and it sometimes burrows in the mortar; the neighborhood of the fire is very attractive to it, particularly in winter; and its merry note has, accordingly, be-

CRICKET.

come associated with ideas of domestic comfort and cheerfulness. Without the heat of the fire, it becomes dormant, or nearly so, in winter. It remains quiet during the day, but is lively and active at night, issuing forth to seek its food, which consists both of animal and vegetable substances. Bread crumbs are very acceptable to it; and for the sake, apparently, both of food and warmth, it very



House Cricket (*Gryllus domesticus*):

a, eggs; b, young just hatched; c, full-grown larva; d, pupa;
e, perfect insect.

much frequents bakehouses. The larvæ are wingless, the pupæ have mere rudimentary wings.—The FIELD C. (*G. campestris*) is larger, blackish, with the base of the wing-covers yellowish, feeds on herbs and roots, and makes a louder noise than the House C.—A species of C. (*G. megacephalus*) found in Sicily, makes a noise loud enough to be heard at the distance of a mile.—See MOLE C. (*Gryllo talpa*.)

CRICKET, n. *krík'èt* [F. *criquet*, the stick or peg serving for a mark in the game of bowls: F. *crosse*; OF. *croce*, a crooked staff at cricket, which it was originally, and not a club: Dut. *krick*, a staff or crutch]: favorite outdoor game played with bats, wickets, and ball. CRICK'ETING, imp. N. the act of playing at cricket: CRICK'ETER, n. *-ér*, a player at cricket.—Cricket is of very ancient date. The author of the *Cricket Field*—one of the best manuals on the subject—believes it to be identical with 'Club-ball,' a game played in the 14th c.; it went originally by the name of 'handyn and handoute.' C. is the truly national English game. There is hardly a town, village, or school, that does not own its C. ground, and military authorities hold it in such estimation as a healthy recreation, that soldiers are encouraged to occupy their leisure time in its pursuit. Of late years, C. has been introduced largely into Scotland

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and Ireland, and to some extent into the United States, and various other countries. The requirements for the game are—1st, a piece of level turf an acre or two in extent; 2d, a sufficient number of players to form two sides of eleven each, for *double* wicket, and a lesser number for *single* wicket; 3d, for double wicket (the mode in which the game is usually played), two bats, two sets of wickets and bails, and a ball. When a match is to be played between two 'elevens,' the first thing to be done is to 'pitch' the wickets. *Wickets* consist of six wooden stumps, 27 inches high, and are placed in the ground in sets of three, at a distance of 22 yards apart. On the top of each set of stumps are placed two small pieces of wood, called *bails*. The rival sides next toss for first 'innings,' and the director of the side that is to go in first, places two of his men at the wickets as batters; while a bowler, wicket-keeper, long stop, and fielders (see accompanying illustration), are placed in their several positions by the director of the opposite side. When these arrangements are satisfactorily made, and the markers or scorers are at their post, the umpires take their places, and the game begins. The relative merits of rival sides are decided by the total number of *runs* made by each



Position of Players on Cricket Field for Fast Bowling.

eleven batters during two innings—the side whose players score the most being, of course, victorious.

The bowler's object is to direct his ball, by a swift movement of the arm, toward the opposite wickets, at which one of the batsmen stands, and, if possible, to strike down the stumps or knock off the bails; while the object of the batsman, on the other hand, is to protect his wickets from the bowler's attack, by either stopping the ball when it reaches him (blocking), or driving it out to the field. And much of the beauty of the game depends upon the precision with which the bowler can direct ball after

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ball in a straight line for the wickets, and the corresponding skill displayed by a good batsman in guarding them.

We will now suppose the two batsmen to be at their places, the bowler at his, ball in hand, and the other players arranged in theirs; at a signal from the umpire the bowler cries 'Play!' and immediately after, *delivers* his first ball. If the batsman misses the ball, and it passes the wicket, the wicket-keeper stops it, and returns it to the bowler, who delivers another ball, and so on. When the batsman strikes the ball fieldward, he immediately runs to the opposite wicket, passing his companion batsman, who crosses to his, and so on, till the ball has been returned by a fielder to the wicket-keeper or bowler's hand. Thus, if the stroke be a long one, the striker may have time to run perhaps three times between the wickets before the ball is thrown up, when three 'runs' are accordingly placed at his name by the scorers, on their sheet. If, however, the bowler or wicket-keeper receives the ball, and touches the wickets with it, before the advancing batsman has reached his 'ground' or touches it with his bat, the striker is out, and another man takes his place. Besides, if a ball from the stroke of a bat be caught by one of the opposite party before it reaches the ground; or if in striking at a ball the striker hits down his wicket; or if he wilfully prevents a ball being caught, or strikes it twice; or if any part of his person stops a ball which would otherwise have hit his wicket, the striker is out. It frequently happens that two skilful batsmen guard their wickets so effectually, and score so many runs, to one particular style of bowling, that a change either of the bowler, or style of bowling, is adopted by the other side. This change, say from swift to slow bowling, or *vice versâ*, generally produces the required results, and leads to the speedy retirement of the hitherto fortunate batsmen.

The wicket-keeper's place is a very important one, his principal duty being to stop with his hands every ball the batsman misses, it being allowable to make runs (byes) for balls that elude his grasp. Behind him stands the long-stop, who is always on the outlook for balls that escape the wicket-keeper. The fielders, who are posted in various parts of the ground, ought to possess quickness of eye and foot, and skill in picking up with either hand a ball that is running, and instantly throwing it to the wickets. They must also be well skilled in catching balls. Much depends on their judgment of distance between the point at which the ball is picked up, and the wickets, as misconception of this may lead to overthrowing the ball, or throwing it short, while the batsmen are profiting by the error, and scoring additional runs. Fielders usually throw the ball to the wicket-keeper, who returns it slowly to the bowler; this saves the hand of the latter from being unsteadied by catching long balls.

At the end of every four bowls, the bowler, wicket-keeper, long-stop, and fielders, change places, and thus every four balls are delivered from alternate wickets; four

balls constitute an 'over,' which it is the umpire's duty to reckon and announce.

We have said that each side is allowed *two* innings, but it sometimes happens that one side scores more runs in one inning than the other does in two; thus, A's side, we will suppose, goes in first, and its eleven men score 180; B.'s side then goes in, and scores, say, 80 the first innings, and 70 the next; in that case, A would be said to have won by an inning and 30 runs.

In England, Marylebone Club is the parliament of cricket, and its laws are the recognized code for the world. In the United States the game is rapidly spreading. The most comprehensive assoc. is the Inter-city League, regulating annual contests between teams of New York, Boston, Philadelphia, Chicago, Detroit, and Pittsburg. Other authorities are the Metropolitan District League, which regulates matches within 20 m. of the New York city-hall: there are also the Detroit C. Assoc., Pittsburg C. League, California Cricket Assoc., Massachusetts Central C. Assoc., and Western Massachusetts Assoc. Philadelphia, R. I., Del., and Baltimore have local clubs.—Good works on C. are *The Cricket Field*, *Felix on the Bat*, Lillywhite's *Guide to Cricketers*, Captain Crawley's *Cricket* (1878). See also *Cricket Scores and Biographies*.

CRICKLADE, *krik'lād*: agricultural town and parliamentary borough, in the north of Wiltshire, England, 7 m. s.e. of Cirencester, on the right bank of the Isis. The town of C. consists of one long street. The government is in a high-bailiff, appointed by the town. It has a considerable retail trade; and the market for fat cattle, held on the third Thursday of each month, is well attended. The parliamentary borough called C. includes, besides its own two parishes of St. Mary and St. Sampson, nearly 50 other parishes, or parts of parishes, comprising a large and rich agricultural district, which returns two members to the house of commons. Pop. of parl. borough (1881) 51,956; of the town, 11,613; (1891) 59,414, and 11,835.

CRICOID, a. *kri'koyd* [Gr. *krikos*, a ring; *idos*, shape]: like a ring; in *anat.*, applied to the lowest cartilage of the larynx where it joins the windpipe.

CRIED, CRIER, etc.: see under CRY.

CRIEFF, *kri'f*—including the burgh of barony of Crieff and the burgh of regality of Drummond: town in Scotland, on the Earn, 17 m. w. of Perth; beautifully situated at the foot of the Grampians, near the entrance to the highlands. It has woollen manufactures, besides tanneries. The climate of C. makes it the resort of invalids in summer, and there is a superior hydropathic establishment, with accommodation for 200 visitors. It is eminent for its schools. St. Margaret's College was opened here 1849, for the education of young ladies of the Episcopal communion. Near is the fine scenery of Glen Almond, with Trinity College, opened 1847, for Scottish Episcopal students. Morrison's Academy—built at a cost of £6,500, and endowed

by Thomas Morrison, builder, Edinburgh, with £20,000—was opened 1860. C. is the terminus of two branches of the Caledonian Railway, and since the opening of the first in 1856 it has much improved. The greatest Scotch cattle-market was here till 1770, when it was removed to Falkirk.—Pop. (1881) 4,469; (1891) 4,902.

CRILLON, *kre-yōng'*, LOUIS DE BERTON DES BALBES, surnamed 'LE BRAVE:' 1541–1615, Dec. 2; b. Murs in Provence. Under Francis of Lorraine, Duke of Guise, then the model of military chivalry, he was trained for war, and at the age of 16, was accounted an accomplished soldier. In 1558, he gave the first public proof of his valor at the siege of Calais. Shortly afterward he covered himself with glory at the capture of Guines. The whole army celebrated the praises of the young hero, who was introduced by Duke Francis in flattering terms to Henry II. As a reward of his numerous heroic deeds, he obtained a multitude of church benefices, which he intrusted to the care of learned clerks. In the religious wars of the 16th c., he fought against the Huguenots, and distinguished himself at the battles of Dreux, Jarnac, and Moncontour. He was present at the battle of Lepanto, 1571, and though wounded, was appointed to carry the news of the victory to the pope and the French king. In the atrocities of the St. Bartholomew Massacre, C. had no part. In 1573, he took part in the siege of La Rochelle. In 1585, Henry III. made him knight of his Orders. He continued faithful to his sovereign in his struggle with the Catholic League. Henry IV. found^d in him a sincere friend and adviser. After the peace with Savoy, C. retired to Avignon, and, after the fashion of a true Catholic warrior, ended his days 'in the exercises of piety and penance.' The martial fire burned brightly in C., however, even in his last days; in proof of which, there is recorded the rather melodramatic story, that when listening at church one day to an account of the crucifixion, the old hero forgot himself, and brandishing his sword, cried out: 'Où étais tu, Crillon?' (Where wert thou, Crillon?)

CRIME, n. *krīm* [F. *crime*—from L. *crimen*, a crime, a fault: It. *crimine*]: a violation or breaking of some human or divine law; a serious fault; iniquity. CRIMINAL, *z.* *krīm'ī-nāl*, that violates a human or divine law; guilty of or tainted with crime; abandoned; wicked; in *law*, opposed to *civil*: N. a person who has violated human or divine laws; one guilty: in *law*, one convicted of a crime; one indicted for a criminal offense is often called a culprit—in Scotland in some cases 'the panel' (see PANEL). CRIMINALLY, ad. *-lī*. CRIMINALITY, n. *-ī-tī*, the quality of being guilty of a crime; guiltiness. CRIMELESS, a. *krīm'-lēś*, innocent. CRIMINATE, v. *krīm'ī-nāt*, to accuse; to charge with a crime. CRIMINATING, imp. CRIMINATED, pp. charged with a crime. CRIMINATION, n. *-nā'shūn*, the act of accusing; a charging with being guilty of some crime or offense. CRIMINATOR, n. *-ī-nā'tér*, one who. CRIMINATORY, a. *-tér-ī*, that involves accusation; accusing.

CRIME.

CAPITAL CRIME, a crime punishable with death. **CRIM.** **CON.** n. *krim'kōn'* [contr. for *criminal conversation*]: adultery (q.v.). **CRIMINOUS**, a. *krim'ī-nūs* [L. *crimīnōsus*]: in *OE.*, blameworthy; wicked.—**SYN.** of 'crime': vice; sin; guilt; offense; misdemeanor; trespass; misdeed; transgression; wrong; wickedness; injustice; injury;—of 'criminal, n.': malefactor; culprit; felon; convict.

CRIME: in its legal, as distinguished from its moral or ethical sense, an act done in violation of those duties for the breach of which the law has provided that the offender, in addition to repairing, if possible, the injury done to the individual, shall make satisfaction to the community. A private wrong, or civil injury, on the other hand, is an infringement on the rights of an individual merely, for which compensation to him is held, in law, to be a complete atonement. From this definition, generally adopted by lawyers (Stephen's *Com.* iv. p. 77), it is obvious that legal criminality is not a permanent characteristic attaching to an action, but one fixed upon it arbitrarily, from considerations of expediency. Without changing its moral character, the same action may, and often is, a C. in one country or in one generation, and no crime in another country or generation. Malice, or evil intention, however, is in all cases essential to the character of C., for though there may be an immoral act which it is inexpedient to punish as a C., it can never be expedient to punish as a C. what is not an immoral act. But it is not necessary that the evil intention shall have had reference to the party injured. If the offender acted in defiance of social duty, and regardless of order, a C. has been committed, though it may not have been the particular C. which he intended. For example, it is murder if A kill B by mistake for C, unless the killing of C would have been justifiable, or excusable. The law can take no cognizance of a bare intention, which has not developed into any sort of act. How far *attempts* to commit C. are punishable, is always a question of difficulty. The general rule seems to be, that if such acts can be unequivocally connected with the criminal intention, they are punishable, though not to the same extent as the completed crime. Pupils under seven years of age, and insane persons, as being incapable of design or intention, are regarded in the eye of the law as incapable of C.; but questions as to the responsibility of persons laboring under partial insanity are often surrounded with practical difficulties as yet unsolved. The defense of *compulsion*, or *vis major*, as it is called by lawyers, if completely established in fact, is generally sufficient in law: see **COMPULSION**. The subjection of a servant to a master, or of a wife or child to a husband or parent, will be no defense for the commission of an act of the criminality of which the offender was aware, unless it amount to compulsion. Magistrates acting *bonā fide*, and soldiers acting under their officers in the ordinary line of duty, are not liable to a criminal charge. Extreme want is no excuse for a C. in law, though it may furnish a ground for an application for mercy.

In the technical language of the law of England, the term *offense* has a wider signification than C., the latter including only such of the former as are punishable by *Indictment* (q.v.). Crimes are divided into *Misdemeanors* (q.v.) and *Felonies* (q.v.), the latter being a higher species of offense than the former.

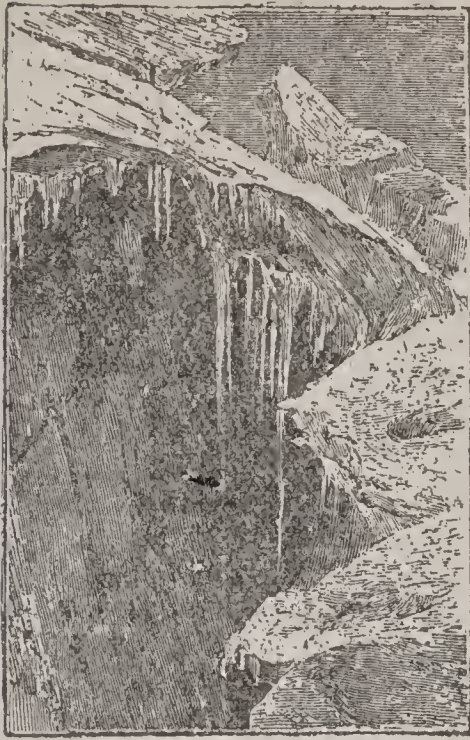
CRIME, SOCIETY FOR THE PREVENTION OF: organized in New York 1876, incorporated 1878, for the purpose of promoting the removal of the sources and causes of crime, aiding the unfortunate in obtaining the protection of the courts and the laws, assisting in the enforcement of the municipal and state laws, preventing the sale of liquors on Sunday or by unlicensed dealers, and ridding the city of its low grogeries. It has a large number of agents employed in detecting violations of the excise and other laws governing the sale of intoxicating liquors, and has already done much good by its fearless prosecution of offenders.

CRIMEA, *krî-mě'a* (anciently, the Tauric Chersonese) peninsula in the south of Russia, forming the greater part of the govt. of Taurida; lat. $44^{\circ} 44' - 46^{\circ} 5'$ n., long. $32^{\circ} 30' - 36^{\circ} 35'$ east. It is united to the mainland only by the very narrow isthmus of Perekop, between the Black Sea and the Sea of Azof, and separated from the isle or peninsula of Taman, on the e., only by the narrow strait of Yenikalé. The C. is thus almost surrounded by water—on three sides, by the Black Sea, and on the fourth by the Sea of Azof; while a trench, 70 ft. wide and 25 deep, across the isthmus of Perekop, cuts it off from the mainland. The C. is quadrilateral in shape, the four corners pointing to the four cardinal points in the compass; but a long narrow peninsula juts out on the e., which increases the extreme length of the territory from e. to w. to 190 m., the breadth being 110 m.; total area 8,000–9,000 sq. miles. The coast is much broken and indented, particularly on the side of the Sea of Azof. The most easterly part of it is a mountainous peninsula, seat of the ancient kingdom of Bosphorus. From the strait of Yenikalé, through this minor peninsula and along the whole s. coast, a chain of mountains extends, which may be regarded as a continuation of one of the chains from Mount Caucasus. This s. district of the C. is very rich and beautiful. The mountains rise with steep slopes from the sea, while spurs and secondary chains extend northward, richly wooded, and with most beautiful intermediate valleys, gradually sinking into the uniform and desolate steppe which forms the n. and much greater part of the peninsula. The highest mountain is Tchatirdagh, i.e., the Tent Mountain, *Mons Trapezus* of the ancients, which rises more than 5,000 ft. It is a table-mountain, and has many great and deep chasms, in some of which the ice remains unmelted all the summer. The s. district of the C. is well cultivated, and adorned by many country seats of the Russian emperor and nobles, with parks and gardens surpassed by none in Europe. Tatar villages, mosques, and Greek convents are seen in most picturesque situations among the woods

and rocks, with many ruins of ancient fortresses.. The vegetation may almost be called sub-tropical; olive groves are frequent; the vineyards yield excellent grapes, and some of them excellent wine; and even oranges are produced. Grain of various kinds is produced abundantly, and silk, wax, and honey. Much attention is bestowed upon horses, oxen, and sheep, in which no small part of the wealth of the country consists. The n. part of the C. is in every way a contrast to the south, being little else than one waste uniform steppe, destitute of water and of wood, with a soil generally very unfit for agriculture, and with numerous salt-lakes and salt-marshes, some of which dry up in summer, and which seem to indicate that it was recently covered by the sea. The air is infected by exhalations from these marshes, and from the *Siwash* or *Putrid Sea*, a portion of the Sea of Azof almost cut off from it by a narrow tongue of land called the Peninsula of Arabat. In the summer and autumn, a most offensive and powerful smell arises from the stagnant water, but the evaporation is often so complete that the Siwash is left dry, and horses can cross upon the hardened ground, where at other seasons vessels may sail. The capital of the C. is Simferopol (q.v.) the old Tatar capital is Baktshiserai (q.v.), both in the interior. Sebastopol (q.v.) is in the s. w.; Kaffa and Kertch in the s. e.; Perekop on the isthmus to which it gives its name, in the north. The C. is now directly connected with the Russian railway system, lines diverging to the s. e. coast and s. w. The small river Alma, on whose banks the first battle was fought between the Russian troops and the French and English invading army (1854, Sep. 20), falls into the Black Sea, where the picturesque s. district approaches the n. steppe.

For the chief features in the early history of the C. see BOSPORUS. The Tatars conquered the territory in the 13th c., and converted it into the khanat of Krim Tatory. The Genoese under these rulers planted flourishing colonies here, which were destroyed by the Turks, who came into possession of the country in the 15th c. Russia finally subjected the C. 1783: see RUSSIA. Pop. of the govt. of C. (1890) 1,096,670, of which two-thirds are Tartars, the remainder Russians, Germans, Greeks etc.

CRIMEAN WAR: 1853-55; between Russia and the allied powers England, France, Sardinia and Turkey; so called because fought chiefly on the peninsula of the Crimea. The motives alleged for the war were the desire of Russia on one hand to protect the Greek Christians in Turkey, and of the allied powers on the other to check the progress of Russia and aid that of Turkey. The Greek (Russian) and Latin (Roman) churches had been striving for exclusive possession of several holy places, including the sepulchre in Turkey, and the French and Russian govts. had been drawn into the controversy, the former espousing the cause of the Latin Church, and the latter that of its national one. Amicable negotiations led to the Greek Church being given jurisdiction over the holy places; but when Russia further demanded the right of protecting the adherents of that



Crevasse in a Glacier.



Cringle.



Mole Cricket and Eggs (*Gryllotalpa vulgaris*).

CRIMEN REPETUNDARUM—CRIMP.

church in Turkey, the sultan refused to yield and appealed to his allies. France and England immediately sent two war vessels each to the Dardanelles; the Russians entered the Turkish principality of Moldavia 1853, July; and the sultan declared war in Oct. In 1854, Jan., the French and English fleets entered the Black Sea, and their govts. notified Russia that they should maintain command of that water, and, having signed a treaty of alliance with Turkey, both made a formal declaration of war against Russia, Mar. 27, 28. The first action of note was the bombardment of Odessa by the combined fleet, Apr. 22. In the following month the allied army landed at Varna, moved to the Crimea, Sep., and defeated the Russians at Alma river on the 20th. The British troops were under command of Lord Raglan, the French of Marshal Saint-Armand, and the Russian of Prince Mentchikof. The first battle caused a loss to the Russians in killed and wounded of 5,000, and to the allies of 3,400. Five days afterward the British forces seized Balaklava, and the memorable siege of Sebastopol began Oct. 9. The Russians attacked Balaklava, Oct. 25th, when the celebrated charge of the British light brigade was made, and Inkerman, Nov. 5, when they were defeated with heavy loss. Sardinia joined the allies 1855, Jan.; Gen. Péliissier took command of the French army, May; the allies made a desperate but unsuccessful attack upon the Malikoff and Redan fortresses, June 18; the French carried the Malikoff by storm, Sep. 8; and the Russians sank their fleet and retreated from Sebastopol on the following day. Peace was concluded by treaty, 1856, Mar. 30, and the allies evacuated the Crimea, July 9. The casualties of the war were estimated as follows: British, killed, died of wounds, died of cholera, died from other diseases, and disabled, 26,873; French, from same causes, 63,500; Russian, from all causes, over 90,000.

CRIMEN REPETUNDA'RUM: crime of accepting a bribe by a judge: see **BARATRY: JUDGE.**

CRIM'INAL COURTS: see **COMMON LAW, COURTS OF ASSIZE: JURY-TRIAL: ETC.:** see also **JUSTICIARY: JUDICIARY IN THE UNITED STATES.**

CRIM'INAL INFORMATION: see **INFORMATION.**

CRIM'INAL LAW: see **CRIME: PROSECUTION: PROSECUTOR.**

CRIMOSIN, n. *krīm'ō-zīn*, OE. for **CRIMSON.**

CRIMP, v. *krīmp* [Dan. *krympe*, to shrink: Dut. *krimpen*, to contract: W. *crimpio*, to pinch, or crimp—connected with *cramp*, *crump*, and *crimple*, all used in the sense of contraction]: to pinch up in small ridges, as a frill or ruffle; to induce rigid muscular contraction in a fish by making cuts through the flesh: **ADJ.** brittle; easily crumbled. **CRIMP'ING**, imp.: N. the operation of inducing rigid muscular contraction in fish by transverse cuts and immersion in cold water; the act of forming into ridges or plaits. **CRIMPED**, pp. *krīmpt*: **ADJ.** applied to cod and other fish prepared for table by the operation of crimping.

CRIMP—CRINGE.

CRIMPING-IRON, an iron for curling hair and crimping frills. **CRIMPLE**, v. *krīm'pl*, to contract or draw together; to cause to curl. **CRIM'PLING**, imp. **CRIMPLED**, pp. *krīm'pld*, contracted; shrunk.

CRIMP, n. *krīmp* [Dut. *krīmpe*, a confined place in which fish are kept alive till wanted]: an agent who unfairly decoys men into naval or military service—especially one who entraps sailors; one who ostensibly keeps a lodging-house for sailors, but whose real occupation is to fleece the unwary of their wages; a game at cards so called: V. to decoy into naval or military service. **CRIMP'ING**, imp.: **CRIMPED**, pp. *krīmpt*.—Crimps often receive so much per head for seamen whom they decoy into service on ships. They are numerous in large seaports, and are usually in league with keepers of low lodging-houses and taverns, and with prostitutes, to deprive seamen of their wages. They also keep a sharp look-out for emigrants, and convey all who are simple enough to put faith in their statements to low houses in which they have an interest. The mere charge for lodging is often small, but the lodgers are cheated by provision merchants and others who pay the C. a liberal commission on their custom. In recent years much has been done to protect seamen from these abuses. There are also reputable agents through whom ships engage sailors; these are never known as crimps.

CRIMSON, n. *krīm'zn* [F. *cramoisi*; OF. *cramoisin*; Turk. *kirmizi*, crimson: Sp. *carmesi*—from *kermes*, the name of the insect producing the color]: a deep-red color; a red color in general; a red inclining to purple: see **RED COLORS**: **ADJ.** having the color of crimson: V. to dye with crimson: to be tinged with red; to blush. **CRIM'SONING**, imp. **CRIM'SONED**, pp. *-znd*, tinged with a red color. **CRIMSON-HUED**, *-hūd*, of a crimson color.

CRINAN CANAL, *krē'nan*: artificial water-communication 9 m. long, in the w. of Argyllshire, Scotland, between Loch Gilp, a branch of Loch Fyne, and Loch Crinan, in the Sound of Jura, at the head of the peninsula of Cantire. It was constructed in the end of last c., to avoid the circuitous passage of 70 m. round the Mull of Cantire, on the route from Glasgow to Inverness by the Caledonian Canal. It is 24 ft. broad, and 12 deep, has 15 locks, and admits vessels of 200 tons.

CRINED, *krīnd* [Lat. *crinis*, the hair], in Heraldry: denoting that the hair of a man or woman, or the mane of a horse, differs in tincture from the rest of the charge—said to be *crined*, of such a metal or color.

CRINGE, v. *krīnj* [AS. *crymbig*, crooked; *cringan*, to sink in battle, to succumb: Dan. *krybe*, to creep, to grovel: Ger. *kriechen*, to creep, to sneak]: to fawn upon with servility; to flatter meanly; in *OE.*, to contract, twist, or draw together, as the body and muscles of the face in pain: N. servile civility. **CRING'ING**, imp.: **ADJ.** having the habit of one who cringes. **CRINGED**, pp. *krīnjd*. **CRINGER**, n. *krīn'jēr*, one who. **CRINGELING**, n. *krīnj'ling*, one who stoops meanly to obtain favor.

CRINGLE—CRINOIDS.

CRINGLE, n. *krīng'gl* [Icel. *kringla*, a round cake: Dan. *kring*, a circle]: a withe for fastening a gate; a short peace of rope with each end spliced into the bolt-rope of a nail confining an iron ring or thimble: through these spliced ropes smaller ropes are passed to aid in managing the sails.

CRINIGER, n. *krī'nī-jēr* [L., hair-bearing, hairy]: genus of thrushes, family *Merulidæ*, comprehending those species which have strong setæ on the bill, and whose feathers on the back of the neck have sometimes a setaceous termination.

CRINITE, a. *krī'nīt* [L. *crīnītus*, having long hair—from *crīnīs*, hair]: in *bot.*, having the appearance of a tuft of hair; bearded.

CRINKLE, v. *krīng'kl* [Dut. *kronkelen*, to curl, to twist: Dan. *krinkel*, crooked]: to form with short turns or wrinkles; to leave small folds or wrinkles, as the skin by the shrinking of the flesh in old age; to run in and out in little short bends. **CRIN'KLING**, imp. *-klīng*. **CRINKLED**, pp. *krīng'kld*.

CRINO, n. *krī'nō*, **CRINONES**, n. plu. *krī-nō'nēz* [L. *crīnīs*, the hair]: disease characterized by the growth of rigid black hairs from the skin of the back, arms, and legs, attended by febrile symptoms and emaciation. It affects infants.

CRINOIDS, n. plu. *krī'noyds*, or **CRINOI'DEÆ**, *-noy'dē-ă* [Gr. *krīnon*, a lily; *eidos*, shape]: order of family of radiate animals of the class *Echinodermata* (q.v.), of which the



Encrinurus.

recent species are few, but the fossil species so very numerous as to constitute great tracts of the dry land as it now appears. The C. have a central disk, in which is contained the digestive cavity, with two orifices, and from which arise arms

or rays, five in number, but soon subdividing, so as at first sight to appear more numerous, and again subdividing into lateral appendages, either fin-like or filamentous, the disk as well as the rays and their subdivisions formed of a calcareous jointed skeleton, clothed with a fleshy integument, of which the fin-like expansions are formed, and which is thicker than in star-fishes, and contains imbedded in it the innumerable ovaries. The joints are also extremely numerous, and the subdivision of the rays often very great. The disk is composed of calcareous pieces and fleshy integument like the rays, as is also a stalk on which the whole is usually supported; the base, it is supposed, being fixed, and the disc and rays expanding like a flower. It appears probable that many of the fossil *C.* were permanently fixed in this manner, and this is supposed to be the case with the species of *Pentacrinus* still existing, as the *P. caput Medusæ*, or Medusa's Head of the W. Indian seas; but others are fixed only when young, the disc and arms finally becoming detached from the stalk and moving freely in the sea, swimming in a manner analogous to that of the medusæ. This interesting fact was first discovered by Wyville Thompson, who found in the sea near Cork the stalked young of the *Comatula rosacea*, a small but very beautiful species, and the only species of the *C.* found in the British seas. The fossil remains of Crinoids are called encrinites (stone-lilies): see ENCRINITES. CRINOI'DAL, a. -dāl, pertaining to.

CRINOLINE, n. *krin'ō-lēn* [F. *crinoline*, hair-cloth—from L. *crinis*; F. *crin*, hair; *lin*, flax—from L. *linum*, flax]: woman's petticoat stiffened with cane, steel, or horse-



Ladies in time of Queen Elizabeth, showing how the Fardingale was worn.

hair bands; the bands that stiffen petticoats. This fashion of expansion of skirts is not new. The first name we find given to it is the *fardingale*, introduced by Queen Elizabeth. Walpole, in his fancy description of her, speaks of her 'enormous ruff and vaster fardingale.' The upper part of the body was incased in a cuirass of whalebone, which was united at the waist with the equally stiff fardingale of the

same material, descending to the feet, without a single fold, in the form of a great bell. Gosson mentions the fardingale in 1596, in his *Pleasant Quippes for Upstart Newfangled Gentlewomen*. In the end of the reign of James I., this fashion gradually declined, and was further tamed down by Puritan feeling in the time of Charles I. and Cromwell, till it quite disappeared. We next hear of it in 1711 as 'that startling novelty the hoop petticoat,' which differed from the fardingale in being gathered at the waist. Sir Roger de Coverley is made to say of his family pictures: 'You see, sir, my great-great-grandmother has on the new-fashioned petticoat, except that the modern is gathered at the waist; my grandmother appears as if she stood in a large drum, whereas the ladies now walk as if they were in a go-cart.' Hogarth, in his night-scene in *Marriage à-la-Mode*, introduces on the floor a hoop of the time of George II.; and about 1744 hoops are mentioned as so extravagant, that a woman occupied the space of six men. An elongated oval form also came into fashion, raised at each side to show the high-heeled shoes, causing caricaturists to say that a lady looked like a donkey carrying its panniers. These hoops were of whalebone, with canvas over them, having capacious receptacles on each side for articles of convenience. In 1778, we find hoops of canes used, being advertised to 'out-wear the best sort of whalebone.' About the year 1796, hoops had been discarded in private life, but were still the mode at court, and never had been seen in more full-blown enormity, continuing so to the time of George IV., when they were abolished by royal command.



The development of this fashion about the middle of the present century began with C. in its original and proper sense, first in the form of an inelegant 'bustle,' in the upper part of the skirt, then the whole petticoat. Instead of the hair fabric, some used, for economy, cotton, thickly corded and starched. At length, about 1856, people were startled by the fact that the fashion of Queen Anne's time was returning, only that the structure was lighter and more pliant; being usually composed of a series of horizontal small steel hoops, held together either by vertical bands, or by being sewed into a kind of petticoat. Unlike former times of hoops and fardingales, the fashion descended to maid-servants, so that where the dining-room was small, table-maids have been known to give warning of intention to quit, because they could not clear the space between the table and the fire; and the newspapers were occasionally announcing 'Accident from Crinoline,' or 'Lady Burned to Death from Crinoline.' The *Spectator* dealt out much cutting, though playful, raillery on the hoops of his day, but apparently with little effect; and equally unavailing were the satires of *Punch* and other caricaturists of the 19th c. against the hideous fashion of crinoline. The hoops were sometimes made with a circumference of four, and even five yards. At last, abt. 1869, after indignation and ridicule had for years assailed

CRINUM—CRISIS.

the monstrosity in vain, the inflation began without apparent cause, to collapse; and, rushing to the opposite extreme, ladies might be seen walking about as slim as if merely wrapt in a morning-gown or bathing-dress. The *crinolette* is a small crinoline causing the dress to project behind only, and is more recent. The pannier, with a somewhat similar effect, is a structure of lappets of cloth.

CRINUM, *krī'nūm*: genus of bulbous-rooted plants of the nat. ord. *Amaryllideæ*, having long tubular flowers, the segments of the perianth hooked at the apex, the stamens straight and inserted into the tube, and a three-celled capsule. It contains a considerable number of species, natives of different tropical and sub-tropical countries, generally with umbels of large and beautiful flowers.

CRIPPLE CREEK: a town in El Paso co., Col.: 50 m. w. of Colorado Springs; is among the foot hills of Pike's Peak; owes its existence to the discovery of gold in 1891; has several cyanide mills, smelters, and other mining industries; and was nearly destroyed by fire 1896. The gold output of the C. C. district, 1902, was \$19,000,000. Pop. (1900) 10,147.

CRIOCERAS, *krī-ōs'er-ās*, or CRIOCERATITE, n. *krī-ō-sēr'ā-tīt* [Gr. *krios*, a ram; *keras*, a horn]: in *geol.*, a genus of the ammonite family—from its shape.

CRIPPLE, n. *krīp'l* [Icel. *kryppa*, a hump; *kryppill*, a cripple: Dut. *krepel*, a cripple: Dan. *krybe*, to creep (see CREEP)]: one who has lost the use of a limb or limbs, or is partly disabled; a lame person: V. to deprive of the use of a limb or limbs; to lame; to disable. CRIP'PLING, imp. CRIPPLED, pp. *krīp'ld*, disabled.

CRIS-CROSS ROW: see CHRIST-CROSS ROW.

CRISIADÆ, n. plu. *krīs'ī-ā-dē*: family of cyclostomatous polyzoa or bryozoa, founded by Milne-Edwards.

CRISIS, n. *krī'sīs*, CRISES, n. plu. *-sēz* [L. *crisis*; Gr. *krisis*, a decision: It. and F. *crise*]: the decisive point in any important affair. CRISIS, in Medicine: rapid or sudden determination of an acute disease in the direction of convalescence or of death; opposed in signification to lysis (*lūo*, I relax), which denotes the gradual subsidence of the symptoms noticed in most chronic, and in some acute diseases. The doctrine of crises, which was very important in the view of the ancient physicians, was closely bound up with that of a *materies morbi*, or material of disease in the blood, which was presumed to be undergoing changes, during the whole course of the malady, tending to an evacuation of some kind from the system in the form of a critical discharge (*apostasis* or *abscess*), which, when observed, was supposed to contain the matter of disease in a state of *coction*, and to be the direct cause of the sudden relief of the patient. Thus, according to the character and seat of the critical discharge, it was common to speak of a C. by sweating, by diarrhœa, by expectoration, by urine, by parotid swellings, etc.; and no C. was considered regular that was not attended by some symptom of this kind. Another curious doctrine associated with that of crises,

CRISOME—CRISPI.

was the belief in certain days as ruling the beneficent or injurious, the complete or incomplete, character of a crisis. The seventh, fourteenth, and twentieth (according to some, the twenty-first) days of the disease were regarded as eminently critical; less so, but still favorably critical, were the third, fifth, eleventh, and seventeenth; the fourth day was the *indicator* of a complete C. on the seventh; the sixth day was the *tyrant*, notorious for unfavorable crises; the second, eighth, tenth, thirteenth, and the rest were non-critical. Few physicians now attach great importance to critical days, except in a special class of diseases which evince an element of periodicity; but the doctrine of crises and of *amateries morbi*, is still taught, with scientific modifications and qualifications in medical schools and text-books.—SYN.: conjuncture; emergency; exigency; turning-point.

CRISOME, n: *krīs' ūm* [OF. *cresmeau*, the crisome, see under CHRISM.]: in *O.E.*, the little cloth or christening cap put upon the head of a child as soon as it was anointed; the white robe put on a child at baptism; a child dying soon after baptism.

CRISP, a. *krīsp* [F. *crisper*, to shrivel: OF. *crespe*, curled—from L. *crispārē*, to curl; *crispus*, curled: It. *crespo*]: curled; formed into ringlets or curls; in *OE.*, curled or winding; brittle; easily broken short; in *bot.*, having an undulated or curling margin: V. to wrinkle; to curl. CRISP'ING, imp. CRISPED, pp. *krīspt*. CRISP'LY, ad. *-lī*. CRISP'NESS, n. brittleness. CRISPY, a. *krīs'pī*, curled; brittle. CRISPATE, a. *krīs'pāt*, having a crisp appearance; rough with waving lines. CRISPATION, n. *krīs-pā'shūn* [F.—L.]: the act of curling or state of being curled.

CRISP, *krīsp*, CHARLES FREDERICK: jurist: 1845, Jan. 29—1896, Oct. 23; b. Sheffield, Eng. His parents, who were visiting England at the time of his birth, returned with him to the United States the year of his birth. He received a common school education in Savannah and Macon, Ga.; served in the Confederate army till 1864, May 12, when he became prisoner of war and was confined in Fort Delaware; was admitted to the bar in Americus, Ga., 1866; became solicitor-gen. of the s.w. judicial circuit of Ga. 1872; was reappointed for four years 1873; appointed judge of the state supreme court 1877, and elected by the legislature to the same office 1878; re-elected judge for four years 1880; resigned and was elected to congress 1882; re-elected 1884, 86, 88, and 90; elected speaker of the house of representatives 1891, Dec.; and re-elected speaker 1893.

CRISPI, *krēs'pē*, FRANCESCO: statesman: 1819, Oct. 4—1901, Aug. 11; b. in Sicily. He was admitted to the bar of Naples, took part in the revolution 1848, became sec. of war, and directed resistance 2 years. After the failure of the revolution, he fled to France, then to Piedmont, Malta, and London. In 1859 he went back to Sicily to prepare the way for the new revolution. He landed at Palermo with Garibaldi and his 'Thousand,' and fought as a private soldier; he was made col. at Talamone. In Naples he was minister for foreign affairs, and paved the

way for annexation of the Two Sicilies to Italy. Elected to the first Italian parliament 1861, he soon became the acknowledged leader of the constitutional opposition party. It was the understanding between C. and the old Piedmontese 'third party' that led to the formation of the Ratazzi ministry 1876; C. became pres. of the chamber by a vote of 232 against 115. After the fall of Nicotera's ministry, 1877, Dec. 25, C. was chosen by Depretis to be minister of the interior, but was compelled by public opinion to resign, under a charge of bigamy. He was one of the 86 deputies who, 1883, formulated the programme of compensation for deputies, revision of the papal guarantees, and friendly alliance with Austria and Germany. He became minister of the interior in the Depretis cabinet 1887, and on the death of Depretis, in the same year, succeeded him as prime minister and minister of foreign affairs Aug. 7. In Oct., C. went to Friedrichsruhe, to arrange the details of the triple alliance between Italy, Germany, and Austria. He again visited Prince Bismarck on the same mission 1888, Aug. 22. Failing, 1889, to reach an understanding with the pope with regard to the reform of the benevolent institutions, C. had a bill introduced into the parliament, which became law, depriving the ecclesiastical authorities of the direction and administration of charitable foundations. An adverse vote of parliament forced his resignation 1891, Jan. 28, but he was again restored to power 1893, Dec. 15, and in the general elections 1895, May 26, secured a great parliamentary majority; retired 1896.

CRISPIN, n. *krīś'pīn* [comp. L. *crēpida*; Gr. *krēpis*, the sole, a sandal, a shoe]: a shoemaker, after St. *Crispin*, the patron saint of shoemakers.

CRIS'PIN, SAINT: Christian martyr in the 3d c.; descended from a noble Roman family. About the middle of the 3d c., under the reign of Diocletian, he, with his brother Crispianus, fled from Rome into Gaul, where he worked as a shoemaker in the town now called Soissons, and distinguished himself by exertions for the spread of Christianity, as well as by work of charity. According to the legend, his benevolence was so great that he even stole leather to make shoes for the poor. From this, charities done at the expense of others have been called Crispinades. In 287, he and his brother suffered a most cruel martyrdom. Both brothers are commemorated on Oct. 25. King Crispin, as he is called, is the universally recognized patron saint of shoemakers, and is represented with dramatic effect in the ceremonial processions of the 'gentle craft.' There is an amusing but scarce book about shoemakers entitled *Crispin Anecdotes*.—KNIGHTS OF ST. CRISPIN, society of shoemakers for promotion of workingmen against employers, by regulating wages and by providing for the unemployed and the sick. It was organized in Wisconsin 1866, and has spread into several states.

CRISS-CROSS—CRITIC.

CRISS-CROSS, a. in opposite directions; opposed; contrary.

CRISTATE, a. *krĭs'tāt* [L. *crista*, a crest]: in *bot.*, crested; tufted. **CRIS'TA**, n. *-tā*, in *anat.*, a term applied to several processes or ridges of bones.

CRISTATELLIDÆ, n. plu. *krĭs-ta-tĕl'li-dæ* [mod. L. *cristatella* (q.v.), and fem. pl. adj. suf. *-idæ*]: family of polyzoa or bryozoa, founded by Prof. Allman; order *Phylactolamata*. It has a free and locomotive polyzoary. The species are found in fresh water. **CRISTATEL'LA**, typical genus of the family *Cristatellidæ*.

CRISTELLARIDEA, n. plu. *krĭs-tĕl-lār'ĭd'ĕ-a* [mod. L. *cristellar(ia)*, and suf. *-idea*]: according to Ruess, a family of foraminifers, one of those with a perforate test, and that division of them in which that test is calcareous, glassy, and finely porous. **CRISTELLAR'IA**, a. *-ĭ-a*, typical genus of the *Cristellaridea*.

CRITERION, n. *krĭ-tĕ'rĭ-ŏn*, **CRITE'RIA**, n. plu. *-rĭ-ă* [Gr. *kritērion*, means for judging—from *krĭno*, I judge]: a standard or rule by which a judgment can be formed.

CRITH, *krĭth*: the weight of a litre of hydrogen. By the atomic law an equal volume of all gases contains the same number of molecules. Hence if we know the weight of a unit volume of any gas we can determine that of another by multiplying the known weight by the factor expressing the ratio of the molecular weights. As hydrogen is the lightest of gases, the weight of a litre at 0° C. and 760 mm. Bar., (0.0896 gram), has been selected as a convenient basis and is called the crith. And the relative volume-weight of chlorine being 35.4, of oxygen 16, nitrogen 14, the actual weights of 1 litre each of these at 0° C. (32° F.) and at 0.75 mm. pressure, may be called respectively 35.4 criths, 16 criths, and 14 criths. The unit is so convenient that it is unfortunate that it is not more generally used in the textbooks.

CRITH'MUM: see **SAMPHIRE**.

CRITIC, n. *krĭt'ik* [L. *criticus*, a critic: Gr. *kritikos*, able to discern: It. *critico*: F. *critique*, critical—from Gr. *krĭno*, I judge]: a person skilled in judging of the merits of works in the fine arts, or of the beauties and defects in literature; a fault-finder. **CRIT'ICAL**, a. *-ĭ-kāl*, highly important; momentous (sense from *crisis*); nicely exact; prone to judge severely the productions of others; fault-finding. **CRIT'ICALLY**, ad. *-lĭ*. **CRIT'ICALNESS**, n. **CRIT'ICISE**, v. *-sĭz*, to examine and judge, with attention to beauties and faults; to find fault with; to censure or blame. **CRIT'ICI-SING**, imp. **CRIT'ICISED**, pp. *-sĭzd*. **CRIT'ICI'SABLE**, a. *-zā bl*, capable of being criticised. **CRIT'ICISM**, n. *-sĭzm*, the art of judging of the beauties or faults in literature or the fine arts; critical remarks, verbal or written. Literary and artistic criticism—the higher department of what is sometimes called 'reviewing'—has engaged some of the most distinguished minds in Germany, France, England, and in recent years, in the United States. The writers in

CRITICAL TEMPERATURE—CRITTENDEN.

this department are now very numerous, and much of their work is of high rank. *Criticism* is applied also to a close, deep, and thorough study and analysis, sometimes with a decidedly speculative element, of ancient writings, for the deciding of questions regarding authorship, date, etc. **CRITIQUE**, n. *kri-têk'* [F.]: a critical examination in writing of any work; a criticism.

CRITICAL TEMPERATURE: one of the constants of physical science; the temperature above which a gas cannot be reduced to the liquid or solid state by force of pressure alone. This temperature varies, each gas possessing its own. Ordinarily there is a sharp line of division visible between a liquid and its vapor when in the same vessel. Thus a sealed tube may contain liquid and gaseous carbon dioxide, and under ordinary conditions the line of division will be as sharply marked as that between water and air. But at the C. T., if the pressure is gradually increased, the free surface of the liquid becomes blurred and merges into the gas above, thus indicating a continuity of the gaseous and liquid states: the substance is then said to be in the *critical state*. Of course for every C. T. there is a correlative *critical pressure*. The latter constant is not so often used. For carbon dioxide the C. T. is 30.92°C . (87.65°F .); for water, 720.6°C . (1329.08°F .); for oxygen — 113°C . (-171.4°F .). A gas kept above the C. T. may at sufficient pressure maintain a solid in solution as a gas. Thus alcohol vapor can hold either chlorophyl or potassium iodide in this gaseous solution.

CRITICISM, HIGHER BIBLICAL: see **HIGHER CRITICISM, THE**.

CRITTENDEN, *krit'en-dên*, JOHN JORDON: 1787, Sep. 10—1863, July 26; b. Woodford Co., Ky.: statesman. He graduated at William and Mary College 1807, studied law, and began practicing in his native co., but removed shortly to Logan co. on the Tenn border. In 1809 he was appointed atty. gen. of the territory of Ill.; 1812-13 served in the army; 1816 was elected to the legislature; 1817 became U. S. senator; and 1819 resigned, removed to Frankfort, and applied himself to his practice. Pres. Adams appointed him U. S. dist. atty. 1827, and Pres. Jackson removed him 1829. In 1835 he was again elected U. S. senator as a Whig, and was re-elected on the expiration of the term but resigned the seat to enter Pres. Harrison's cabinet as atty. gen. 1841. Soon after the accession of Pres. Tyler, a difference arose between him and Mr. C. on the national policy, and the latter retired from the cabinet. On the resignation of his seat in the senate by Henry Clay 1842, Mr. C. was appointed to fill the vacancy, was elected for the next full term 1843, and while so serving was chosen gov. of Ky. 1848. Two years later he entered the cabinet of Pres. Fillmore as atty. gen., decided the fugitive-slave law to be constitutional, and served till 1853, March. In 1855 he was elected U. S. senator for the sixth time; opposed the repeal of the Missouri Compromise, the policies of Presidents Pierce and Buchanan, and secession; and, failing

CRIZZEL—CROATIA.

to effect a reconciliation between the north and south through resolutions known as the C. compromise, gave a hearty support to Pres. Lincoln and the Union cause.

CRIZZEL, n. *kriz'zël* [F. *grésiller*, to drizzle; *grésillé*, covered or hoar with rime—from *grès*, sandstone, grit-stone: Ger. *gries*, gravel, grit]: a roughness on the surface of glass which clouds its transparency.

CROAK, n. *krök* [AS. *cracetan*, to croak: Gael. *gróc*, to croak: Ger. *krachzen*, to croak: L. *crocio*; Gr. *krozō*, I cry as a raven]: the cry of a frog or raven; any low harsh sound: V. to make a low hoarse noise in the throat, as a frog; to utter a low muttering sound; to grumble. **CROAK'-ING**, imp. **CROAKED**, pp. *krökt*. **CROAK'ER**, n. one who murmurs or grumbles; one who looks upon the worst side of things; a pessimist.

CROATIA, *krō-ā'shī-a*: a region forming part of the Austrian empire. With Slavonia it forms one of the administrative divisions of the kingdom of Hungary; joint area 16,423 sq. m.; joint pop. (1900) 2,400,766. C. lies n.e. of the Adriatic, and borders on one side with Turkey. It is traversed by low chains of mountains, in the s. proceeding from the Julian Alps, and in the n. from the Carnic Alps. These mountains are generally covered with forests, and the chains are separated by very fertile valleys. The principal rivers are the Save and its affluent the Culpa, the Drave and its affluent the Mur. Some of the valleys, especially in the south, are quite shut in, so that many of the streams have to make their way through subterranean channels. The climate much resembles that of the neighboring parts of Hungary, the more s. situation being counterbalanced by the greater elevation. The inhabitants are mostly of Slavonic race and language. The religion of C. is that of the Roman and Greek churches. The Croats are warlike, but the name *Croats* is employed to designate light-cavalry regiments in the imperial army, in which Magyars and others are mingled with true Croats. Grain, chestnuts, wine, and gall-nuts are among the principal exports of Croatia. The keeping of cattle is neglected. The wood of the great forests, though much of it is admirably adapted for shipbuilding, is as yet little used. The *Litorale* or coast distr. contains valuable marble quarries. The capital of C. is Agram (q.v.). C. with its *Litorale* and Slavonia (q.v.) formerly formed a crown-land, at the head of the administration of which was the Ban (q.v.) of C.

C. was, in earliest historic times, inhabited by the Panonians, who were conquered by the Romans under Augustus, and the country was made a province of Illyria. During the irruptions of the northern nations into the Roman empire, C. suffered a variety of vicissitudes. In 640, the Croats, Chrovats, or Horvats, migrated into it from the Carpathian Mountains, and gave it its present name. In the 14th c., having previously been in some measure incorporated with Hungary, C. was more completely united with that kingdom, and passed with it, in the

CROATS—CROCK.

beginning of the 16th c., to the Austrian house of Hapsburg. In the end of the 16th c., the Turks conquered a portion of it, now known as Turkish Croatia. The city of Fiume was declared 1797 to be a constituent and integral part of the kingdom of Hungary; and after the termination of the French wars, Fiume remained united to Hungary till 1848. The Croats long entertained a feeling of hostility to the Magyars, which manifested itself in 1848 and 9 in a manner very unfavorable to the Hungarian revolution; and early in 1903 a revolt broke out, due to the old cause, which in May threatened to extend to Dalmatia. The C. also attrib. much of their poverty to the financial methods of Hung.

CROATS, n. plu. *krō'āts*: inhabitants of *Croatia* Austrian light-cavalry.

CROCEOUS, a.: see under **CROCUS**.

CROCHE, n. *krōch* [OF.]: a little knob which grows at top of a deer's horn.

CROCHET, a *krō'shā* [F. *crochet*, a little hook—from *croc*, a hook: Icel. *krokr*, a hook]: applied to fancy-work performed with a hooked needle: V. to do fancy-work with a hooked needle: N. in *fort.*, a cut into the glacis opposite a traverse, continuing the covered-way around the traverse. **CROCHETING**, imp. *krō'shā-ing*. **CROCHETED**, pp. *krō'shād*; in *mil.*, usually pronounced *krō'shēt*; *krō'shē-tīng*; *krō'shē-tēd*.

CROCHET: species of handiwork, which may be described as an extensive system of looping, by means of hooks made for the purpose. The method is as follows: With a hook of size proportioned to the fineness of the cotton or wool employed, begin by making a chain of loops. Then turn, and, with the hook still in the last loop, begin the double process of catching the thread through each loop of the chain, and also through that in which your hook is, and thus form another chain attached to the first, and so on. This is called simple or plain crochet. Endless varieties of patterns may be formed, and lightness and elegance attained, by twisting the thread one or more times in taking up the loop, and open work is formed by passing one or more loops. This work may be made round by beginning with a very few loops, joining the first to the last, and then proceeding to take several loops through one, and so widening on. C. has this advantage over knitting, that by drawing the last loop, and leaving it wide, there is no fear of the work running down as happens when knitting-needles slip. Shades of the same color, and varieties of colors in wool as well as in silk, are used for this work. In white cotton, C. can be made available, from large bed-quilts to delicate lace-like edgings. See numerous small books describing and giving patterns of crochet.

CROCIDOLITE, n. *krō-sīd'o-lite* [Ger. *krokydolīth*—from Gr. *krokis*, *krokus*, woof, in allusion to the fibrous structure]: fibrous, opaque mineral, in aspect like asbestos. Hardness 4; color, blue or green.

CROCK, n. *krōk* [Dut. *kruycke*; Ger. *krug*; Icel. *krukka*;

CROCKET—CROCKETT.

Dan. *krukke*; W. *cregen*, an earthen vessel, a pitcher: Gael. *croch*, of a dull-red color]: a vessel of earthenware of the coarsest kind, of a dull-red color; an earthen pot or pitcher; in *OE.*, soot: V. in *OE.*, to black with soot. CROCK'ERY, n. -er-ī [W. *crochan*, a pot, crockery]: the coarsest kind of earthenware; earthenware in general. CROCK, also CROK, a. *krök* [perhaps from same root]: applied to a ewe that has given over bearing—*lit.*, a dry earthen vessel.

CROCKET, n. *krök'ët* [Eng. *crook*; Dut. *kroke*, a curl: Dan. *krog*, a corner]: in Gothic Architecture, projecting



ornament of leaves, flowers, or bunches of foliage, or animal figures, used to decorate the angles of spires, canopies, pinnacles, etc. The varieties of C. are innumerable, almost every kind of leaf and flower being copied for the purpose. The illustration represents a C. from St. Alban's Abbey, of about 1240. C. appear only in pyramidal and curved lines, never in horizontal ones.

CROCKETT, *krök'ët*, DAVID: 1786, Aug. 17—1836, Mar. 6; b. Limestone, Tenn.: pioneer. He spent his early years hunting, trapping, and teaming, in the wildest sections of the west; settled in Franklin co., Tenn., 1811; served

through the Creek Indian war, 1813; and then established himself at Shoal Creek, Tenn., with a colony of settlers who elected him magistrate. He was elected to the legislature 1821 and '23, and to congress, as an adherent of his friend Gen. Jackson, 1826 and '28, and again 1832, losing the intermediate term by opposing Jackson's Indian policy. At the close of his last term he joined the Texans in their struggle against Mexico, and was one of the six surviving defenders of the Alamo who after surrendering were shot by Santa Anna. He was very popular wherever he went, was noted for his humor and eccentricity, and had great shrewdness and common-sense.

CROCKETT, SAMUEL RUTHERFORD: clergyman and novelist: 1859 —————; b. Little Duchrae, Galloway, Scotland; son of a crofter. He graduated from the arts dept. in the Univ. of Edinburgh 1880. As private tutor he travelled over Europe and parts of Asia and Africa, afterward utilizing his observations in his writings. On returning to Scotland he studied theology, and later filled the Free Church pulpit at Penicuik, Midlothian. *The Stickit Minister*, his first novel, appeared 1891; followed by *The Raiders* (1894); *The Men of the Moss Hags* (1894); *Mad Sir Uchtred* (1894); *The Play Actress* (1895); etc.

CROCODILE.

CROCODILE, *n* *krōk'ō-dīl* [L. *crocōdīlus*; Gr. *krōkō-deilos*]: a large voracious reptile of amphibious habits, in shape resembling a lizard, and covered with scutes: **ADJ.** like a crocodile; false. **CROC'ODIL'IAN**, *a.* *-dīl'ī-ān*, pertaining to: **N.** an animal akin to the crocodiles. **CROC'ODIL'IA**, *n.* *-ī ā*, an order of reptiles, including the crocodile, the gavial, and the alligator. **CROCODILE'S TEARS**, false or hypocritical tears.

CROC'ODILE (*Crocodylus*): genus of Saurian reptiles, type of the family *Crocodylidae*; which some naturalists have erected into a distinct order of reptiles (*Loricata*), on account of the square bony plates with which their bodies are covered, instead of the scales of the other saurians; the greater solidity of the skull; the lungs not descending into the abdomen; and the approach which they make to mammalia and birds in the structure of the heart. The heart has two auricles and two ventricles; but a mixture of arterial and venous blood takes place at some distance from the heart, so that the hinder part of the body receives an imperfectly aerated blood, which, however, is supposed to be further aerated in the surface of the peritoneum, two curious openings admitting the water, in which these animals ordinarily live, into the internal cavity of the abdomen. The *Crocodylidae* may be described as lizard-like in form, with a great gape, indicative of their characteristic voracity, and with the tail flattened at the sides, so as to become a powerful organ of propulsion in water. The fore-feet have five toes, the hind-feet four, the three inner ones only being armed with claws: the feet are more or less webbed. Each jaw has a single row of numerous large teeth, which are conical and directed backwards; planted in distinct sockets, and becoming hollowed at the base, to admit the crowns of the new and larger teeth which are to succeed them as the animal increases in size. Small ribs are attached to the vertebrae of the neck, which give it a peculiar stiffness, and make it difficult for the animal to turn; and persons pursued by crocodiles may therefore make their escape by rapid turning. The eggs of the *Crocodylidae* are hard, and small in comparison with the size of the animal. The females of some, if not of all the species, guard their eggs, and take care of their young; though the eggs, buried in the sand or mud, are hatched by the heat of the sun alone. The *Crocodylidae* swallow stones, apparently to assist digestion. They prey on fishes and warm-blooded animals; most of them seem to prefer food in a state of incipient putrefaction, and they are even said to hide their prey, and to return to it when it has reached this state. Some of the larger kinds do not scruple to attack man.—All the *Crocodylidae* are large reptiles; they are found in fresh waters and estuaries in the warm parts of the world; none are found in Europe, nor, as far as is yet known, in Austra-



Crocodile's Tooth:
Showing the hollow at the base in which the summit of the new tooth is sheathed.

CROCOISITE—CROCUS OF MARS.

IIa. They are divided into Gavials, Crocodiles, and Alligators (the latter including caymans).—The true Crocodiles are found both in the Old World and the New. The muzzle is not slender and elongated, as in the gavials, but oblong and flattened; the teeth are very unequal in size, the long fourth teeth of the lower jaw fitting into *notches* of the upper, not into pits, as in alligators. To this genus belongs the C. of the Nile (*C. vulgaris*), which abounds also in many other rivers of Africa. It is of a bronzed green color, speckled with brown, lighter beneath, and is sometimes 30 ft. long. It often seizes human beings for its prey. In Park's *Travels*, an instance is recorded of a negro, one of his guides, who was thus seized in the Gambia, and escaped by thrusting his fingers into the crocodile's eyes. The ancient Egyptians held it sacred, and being exempted from all danger on the part of man, it became more bold and troublesome. The individuals particularly selected as the objects of idolatrous worship were tamed, and took part in religious processions. *Souchis* was the name of the deified individual, the C. god.—The DOUBLE-CRESTED or INDIAN C. (*C. biporcatus*) is very abundant in many parts of Asia, in rivers and estuaries, and is also dangerous to man. The smaller marsh C. (*C. palustris*), abundant in stagnant waters in the same regions, flees from man, and often seeks to hide itself in the mud, into which it thrusts at least its snout, then remaining contented, as if in perfect safety. Crocodiles often bury themselves in the mud in droughts, and so abide till rain falls.—The names C. and Alligator are often indiscriminately used in popular language. See ALLIGATOR.

CROCOISITE, n. *krō-koy'zīt* [Gr. *krokoeis*, of a saffron or yellow color]: the chromate of lead; red lead ore—used as a pigment.

CROCUS, n. *krō'kūs* [L. *crocus*; Gr. *krokos*; Gael. *croch*, red-yellow]: an early spring-flower, a well-known genus of the ord. *Iridacæ*; saffron; a yellow powder. CROCEOUS, a. *krō'shī-ūs*, like saffron; yellow.

CRO'CUS: genus of plants of the nat. ord. *Iridacæ*. The species have much general similarity, and are natives chiefly of the s. of Europe and of the East. Saffron (q.v.) is the produce of *C. sativus*. Some of the species are cultivated in gardens for the beauty of their flowers, particularly those which, as *C. vernus* and *C. luteus*, flower very early in spring. The saffron C. and some other species flower in autumn. The flowers of one or two species are fragrant. It is necessary frequently to take up C. roots and plant anew, on account of the manner in which the corms multiply: see CORM.

CRO'CUS OF AN'TIMONY: oxysulphide of antimony (q.v.).

CRO'CUS OF MARS: finely divided red oxide of iron.

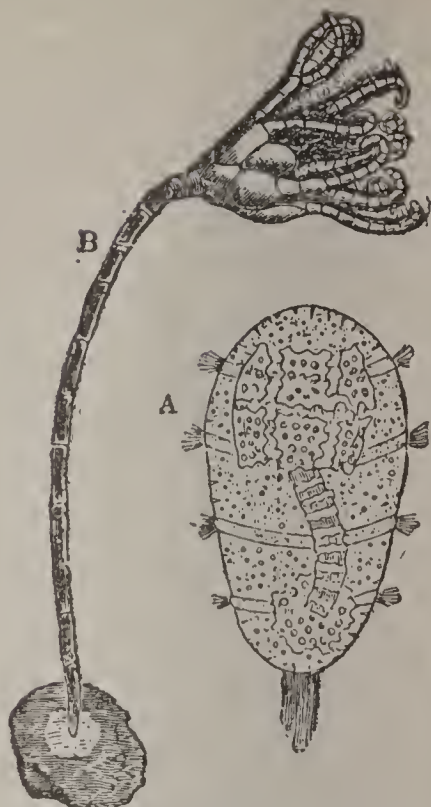
CRÆSUS—CROFT.

CRÆSUS, *krē'sus*: last king of Lydia; succeeded his father, Alyattes, B.C. 560. He made the Greeks of Asia Minor his tributaries, and extended his kingdom eastward to the Halys. From his conquests, his mines, and the golden sand of the Pactolus, he accumulated so much treasure, that his wealth has become proverbial. He gave himself up to a life of pleasure and sumptuous extravagance, and is said to have deemed himself the happiest man in the world, and to have been displeased when Solon, on a visit to his court, told him that no man should be called happy till his death. He soon found how uncertain was a happiness such as his; for his beloved son Atys was killed while hunting, and there was left to him only one son, who was dumb; and having engaged in war with Cyrus, he was totally defeated, his kingdom conquered, and himself made prisoner, and condemned to be burned (546). At the funeral pyre, his repeated exclamation of 'O Solon!' drew on him the attention of the conqueror, and the reason of it being known, his life was spared, and he was treated with great kindness.

CROFT, *n. krōft* [AS. *croft*, a small farm: Dut. *kerft*, a hillock, high land: Gael. *croit*]: in *Scot.* and *OE.*, a small field connected with humble kind of dwelling, whose inhabitant, the renter of the land, is called a *crofter*. In the Highlands and islands of Scotland, where the crofting system is especially common, it is usual for the crofter to have, besides his cottage, a small patch of land for tillage; while the crofters of the township collectively, in certain proportions or 'summings,' have a right of pasturage on the adjoining hill pasture or moorland. Of late, grave complaints have been made by the crofters, or on their behalf, that the great poverty and bad farming which admittedly prevail among them are due to removable and unjust causes. It is alleged that they have no leases; they have no compensation for any improvements they may make on their holdings, but on the contrary, usually have their rents capriciously raised; the land is exhausted by continual manuring with sea-weed only; townships have frequently been removed from fertile land and put on less fertile tracts in order to make large sheep runs or deer forests; the number of crofters on a given area has often been much increased in a given township or area without any corresponding reduction in rent; while eviction on short notice depends on the arbitrary decree of the landlord or the goodwill of the factor. Others affirm that the evils complained of are inseparable from the system, which is inherently bad; that the natural increase of the population leads to the excessive subdivision of crofts already too small to support a family; and that the smallness of areas to till makes the tillers fitful at work and lazy in habit. A royal commission to inquire into the crofters' grievances took evidence 1883: see their bulky report, published 1884. Many of the crofters are also fishermen during part of the year. Cottars are still more dependent than the crofters, and occupy huts occasionally



Crinoidea.—Fig. 1. Pentacrinus.



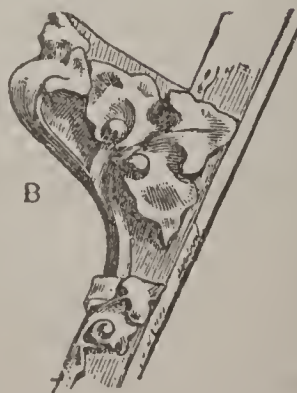
Crinoidea.—Fig. 2. A, Free-swimming larva, with skeleton of adult forming inside; B, Fixed stalked young (Pentacrinus-like) stage.



Crinoidea.—Fig. 3. Free adult, showing wreath of anchoring hooks.



A



B



C

Croquets: A, From choir of Notre Dame, Paris, circa 1160; B, Gable crocket, 14th century. Pinnacle Decorated with Croquets.

CROFT--CROKER.

with a small garden, at small rents or sometimes rent free. See AGRICULTURE: FARM: SPADE-HUSBANDRY.

CROFT, *krōft*, WILLIAM, Mus. Doc.: 1677-1727; b. Warwickshire, England: organist and composer. He received a thorough musical education; was appointed organist in Westminster Abbey and composer to the chapel royal 1708; received his degree from Oxford Univ. 1715, and published an edition of his anthems under the title of *Musica Sacra*, 2 vols. folio, 1724. His remains were interred in the Abbey.

CROIA, *krō'yā*, or CROJA: town of Albania, Turkey, on a mountain spur, 45 m. s.e. of Scutari. It is the chief town of the Mirdites, a Rom. Cath. tribe of Albanians, who are almost independent. Pop. 6,000.

CROIX, STE. (or SANTA CRUZ): see VIRGIN ISLANDS.

CROIX, St. (river): see ST. CROIX.

CROKER, *krō'kér*, JOHN WILSON: 1780, Dec. 20—1857, Aug.; b. Galway, Ireland: English politician and *littérateur*. Educated at Trinity College, Dublin, he entered Lincoln's Inn 1800, and was called to the Irish bar. His first literary attempt was a satire on the Irish stage; and in 1805, he published another equally clever satire on the city of Dublin. In 1807, he issued a treatise on the *State of Ireland, Past and Present*, and was elected member of parliament for Downpatrick. A warm defense in parliament, 1809, of the Duke of York, helped C. in the same year to the office of sec. to the admiralty, a post which he held for 20 years. He was one of the founders of the *Quarterly Review*, and contributed many of the most violent party articles to its pages, as well as a large number of those bitterly personal and grossly abusive reviews which were wont to disfigure that periodical. As 'Rigby,' allowance being made for the satire, his character is not badly hit off by Disraeli, in *Coningsby*. In parliament, C. steadily opposed the Reform Bill in all its stages, and its enactment ended his parliamentary career; but on all questions relative to the promotion of the fine arts, he was much ahead of the great majority of the commons. He was active in the establishment of the Athenæum Club, and rendered good service to literature by his annotated edition of Boswell's *Johnson*, and his publication of the *Suffolk Papers*, and Lord Hervey's *Memoirs of the Court of George II.* His *Stories from the History of England for Children*, supplied Scott with the idea of *Tales of a Grandfather*.

CROKER, RICHARD: New York politician: b. Roscarberry, Ireland, 1843, Nov. 24. His parents emigrated to America when he was 3 years old, and his father was a capt. in the civil war. C. learned the trade of machinist, was an active volunteer fireman, and a popular politician. He was a member of the New York board of aldermen 1867-70; coroner 1873-79; fire-commissioner, and city chamberlain 1889. He succeeded John Kelly as chief of Tammany Hall, controlling the whole Democratic

CROKER—CROMARTY FIRTH.

organization of the city. In 1893, he made large investments in racing stock. In 1894, he went to England, but returned to New York in 1897; formally retired from the leadership of Tammany Hall, 1902, Jan. 11.

CROKER, T. CROFTON: 1798, Jan. 15—1854, Aug. 8; b. Cork, Ireland: author. He early began the collection of legends and songs of the Irish peasantry. The series of publications embodying his researches shows a happy blending of humor, sentiment, and learning.

CROLL, JAMES, LL.D.: physicist: 1821—1890, Dec. 15; b. Little Whitefield, Perthshire, Scotland. He was almost entirely self-educated; till the age of 24 yrs. he worked as a millwright and afterward was an insurance agent, but 1859-67 he was keeper of the Andersonian Univ. Museum, Glasgow; and then, till 1881, was connected with the geol. survey of Scotland. The degree LL.D. was conferred on him by the Univ. of St. Andrews 1876, and the same year he was elected fellow of the Royal Soc. of London. He was author of about 90 memoirs and contributions to periodicals on geol. and physical subjects; also of *Climate and Time* (1875); *Philosophy of Theism*; *Discussions on Climate and Cosmology*; *Stellar Evolution*; *Determinism, not Force, the Foundation Stone of Evolution* (1890).

CROLY, krō'li, GEORGE, D.D.: abt. 1785-1860, Nov. 24; b. Dublin: English poet, romance-writer, and preacher. He was educated at Trinity College, Dublin; entered the English Chnrch, and ultimately became Rector of St. Stephen's, Walbrook, London. His first work was a poem, *Paris in 1815*. From this time till near his death, his pen was almost incessantly at work—on satire, comedy, tragedy, romance, tales, biography, magazine articles, and the weightier matters of religion. His best known work is the romance of *Salathiel*. C. was famous as a pulpit orator.

CROLY, JANE (CUNNINGHAM), (pen-name JENNY JUNE): 1831, Dec. 19—1901, Dec. 23; editor and author; b. Harborough, Eng. She was educated at Poughkeepsie, N. Y.; in 1857 married David Goodman C., formerly city ed. of the *World* (New York) and ed. of the *Graphic*; became herself ed. of Demorest's publications, and did work on the *World*, *Graphic*, *Times*, and *Messenger*; invented the system of duplicate correspondence; brought together the first Woman's Congress, New York, 1856; founded 'Sorosis,' a literary sisterhood, as its name implies; was its pres. 1868-70 and 76-86; held high office in the Assoc. for Advancement of Med. Education for Women; became ed. of *Godey's Lady's Book* 1887; and succeeded Mrs. Terhune (Marion Harland) as ed. of the *Home-maker* 1890. Some of her publications are: *Talks on Women's Topics* (1869); *For Better or Worse* (1875); *Cookery-book for Young Housekeepers*; *Letters and Monograms* (1885-6); and *Knitters and Crochet*.

CROMA, n. krō'ma [It.]: in music, a quaver (q.v.).

CROMARTY FIRTH, krōm'ar-tī fērth: landlocked inlet of the North Sea, on the n.e. coast of Scotland. The entrance to C. F. is by a strait between two high wooded cliffs or headlands, only $1\frac{1}{2}$ mile across, with 12 to 30 fathoms of water, and with the Three Kings Reef, about half

CROMARTYSHIRE—CROMLECH.

a mile off land. Near the Firth are the towns of Dingwall, Invergordon, and Cromarty. In the old red sandstone, near the mouth of the Firth, Hugh Miller discovered the fossil fishes *Pteryichthys*, *Osteolepis*, etc.

CROMARTYSHIRE, *krõm'ar tî-shër*: county of the n. of Scotland, intimately connected, geographically and politically, with Ross-shire, and consisting of ten detached portions in the interior, and along the northern borders of Ross-shire. Area, 344 sq. m., or less than one-eighth of Ross-shire: see **ROSS AND CROMARTY**.

CROMDALE, *krõm'dāl*: village on the e. bank of the Spey, Inverness-shire, at which was fought the battle of C., 1690, May 1, between a small remnant of the adherents of the house of Stuart, who kept in arms after the death of Viscount Dundee, and the forces of King William, in which the latter were victorious. This encounter has been rendered famous by a song, not historically accurate, entitled *The Haughs of Cromdale*.

CROME, *krõm*, **JOHN** (sometimes called **OLD CROME**, to distinguish him from others of his family who painted in the same manner): 1769, Dec. 21—1821, Apr. 22; b. Norwich: English landscape painter. While a coach-painter's apprentice he gave his leisure to sketching from nature, and a friend enabled him to exchange this work for that of a drawing-master, which became the occupation of his life. C. contributed largely to the exhibitions of the Norwich Soc. of Artists, of which he was president, and sent a few paintings to the London Royal Academy. His reputation has increased since his death, and he now takes a high place amongst English landscape painters. His subjects are drawn chiefly from the scenery of his native country, and he is a masterly draughtsman of trees. His '*Mousehold Heath*,' in the national gallery, is one of the best pictures of a broad, open heath scene.

CROMER, *krõ'mêr*: seaport and watering-place on the n. coast of Norfolk, England, 21 m. n. of Norwich. It stands on the top of one of the highest cliffs of the coast. Nearly all the old town, called Shipden, with one of the churches, was swept away by the sea about 1500. Pop. of parish 1,500.

CROMER, **EVELYN BARING**, **EARL**: b. 1841; financier; was secretary to Lord Northbrook (gov.-gen. India) 1872-6; controller-general of Egyptian finance, 1879-80; finance minister of India 1880-3; became consul-general and minister in Egypt, 1883; created visc. 1899, and earl 1901. He is known as "the Maker of Modern Egypt."

CROMLECH, n. *krõm'lêk* [*W. cromlech*, a crooked stone—from *crom*, bending; *lech*, a stone]: ancient monumental structure of rough heavy stones. It has been common among British archeologists, until lately, to apply this name to a rude structure of two or more unhewn stones, placed erect in the earth, and supporting a larger flat stone, also unhewn. According to its etymology, however, *cromlech* (Celt. *crom*, curved and *leac*, a stone) is the proper term for circles of erect stones like Stonehenge (see **STANDING**

CROMLECH.

STONES); and the name *dolmen* (Celt. *daul*, a table, *maen*, a stone) is now considered more appropriate for the simple structure formerly called a cromlech. Monuments of the kind above described, whether called dolmens or cromlechs, are known among the common people by other names, such as 'the giant's grave,' 'the giant's bed,' 'the giant's quoit,' 'the fairies' table,' 'the devil's table,' 'the raised stone,' 'the old wives' lift,' 'the hag's bed,' and the like.

Cromlechs (properly dolmens) are found in England, Wales, Scotland, Ireland, the Channel Isles, France, Spain, Germany, Denmark, and some other countries of Europe; in Hindustan and elsewhere in Asia; and in America.



Kit's Coty House.

They are generally without any inclosure; but occasionally they are fenced round with a ring of unhewn stones. In a good many instances, cromlechs have been discovered in the heart of earthen mounds or barrows. In such cases, the rude chamber or inclosure of the C. is found to contain sepulchral remains, such as skeletons or urns, together with weapons or ornaments generally of stone or bone, fragments of pottery, and bones of animals. Similar remains have been found in the chambers of cromlechs not known to have been at any time covered by barrows. These facts have led modern archeologists to believe that the C. was a sepulchral monument. The theory of the older antiquaries, that the C. was a druidical altar, is without any foundation in what has been recorded of the druidical worship by trustworthy writers. In a C. found under a barrow in Derbyshire, a skeleton and fragments of urns were discovered, with Roman coins of several emperors.

Among the more remarkable cromlechs in England are Kit's Coty House in Kent, Wayland Smith's Cave in Berkshire (commemorated by Sir Walter Scott in *Kenilworth*), and Chinn Quoit in Cornwall. The weight of the flat stone in this last C. is estimated at about 20 tons. In the Marquis of Anglesey's park at Plas Newydd in Wales there are

CROMORNA—CROMPTON.

two cromlechs close beside each other: in the larger, five erect stones support a flat stone about 12 ft. long, 10 ft. wide, and from three ft. and a half to four ft. and a half thick. Cromlechs are comparatively rare in Scotland. The best among the well-ascertained examples is perhaps that called 'The Auld Wives' Lift,' near Craigmaddan Castle, in the parish of Baldernock in Stirlingshire. the recumbent stone, a mass of basalt, is 18 ft. long, 11 ft. wide, and 6 or 7 ft. thick, and the two stones which support it are of nearly the same size. It may be doubted if the partial elevation of the 'Witch's Stone' at Bonnington Mains, near Ratho, in the county of Edinburgh, has not been produced by natural causes. Among the Irish cromlechs, one of the most striking is that of Kiltiernan, about six m. from Dublin: the recumbent stone, which rests upon six blocks, is $23\frac{1}{2}$ ft. long, 17 ft. wide, and $6\frac{1}{2}$ ft. thick. A cromlech called 'The Broadstone,' in the county of Antrim, is surrounded by a circle of standing stones, or erect unhewn pillars. A cromlech in the Phoenix Park, Dublin, was discovered 1838 in removing a large barrow: specimens of the sepulchral remains found in it are shown in the Museum of the Royal Irish Academy. See DOLMEN.

CROMORNA, n. *krō-mōr'nă* [F. *cromorne*; It. *cromor-no*]: a reed-stop in the organ.

CROMPTON, *krōmp'ton*, SAMUEL: inventor of the spinning-mule: 1753, Dec. 3—1827, June 26; b. Firwood, Bolton, Lancashire, England. Bolton, in those days, was nearly inaccessible, and so bleak and barren that agriculture was not followed further than to supply the wants of the population. All the farmers had looms in their houses, and their families were occupied in spinning and weaving. C.'s father, who was a small farmer, lived at the Hall-in-th'-Wood, a picturesque old mansion near Bolton. He died at an early age, leaving a wife and a son (Samuel), and two daughters. Like his father, C. was brought up to the loom and the farm. His mother, a woman of great energy, perseverance, and stern independence, struggled hard to give him and her daughters the best education the district afforded. When he was old enough, he assisted her in the farm, and wove; going to Bolton at night to complete his education in mathematics, etc. At the age of 21, he was so much annoyed at the difficulties in getting yarn to weave, that he set to work to invent a spinning-machine which should produce better yarn than Hargreaves', one of which his mother possessed. For five years, he labored to realize his idea, sitting up late at night to overcome the successive difficulties, and resuming his labor for daily bread early in the morning. At length he succeeded in framing a machine which produced yarn of such astonishing fineness, that the house was beset by persons eager to know how such wonderful and desirable yarn could be made. He was rendered miserable. All kinds of devices were tried to gain admission; even ladders were placed against his windows. His machine was such that if a mechanic saw it, he could carry away the leading features of

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it. He could not leave the house for fear of his discovery being stolen from him. He had spent every farthing he had in the world upon its completion; he had no funds wherewith to have obtained a patent, and it is doubtful whether a patent would have altered his fate. When he was thus almost driven to desperation, one of the manufacturers went to him and persuaded him to disclose the invention to the trade, under the promise of a liberal subscription. Inexperienced in the world, he agreed to this. The machine was exhibited, but all that he got was about £60. This money was not paid to him at the time, but he had to travel for many miles round the country to collect it. Some refused to pay, though he showed them their signatures. He set manfully to work with his machine, determined to make the best he could of his ill-luck. In the course of time, he saved money enough to begin manufacturing on a small scale, but not till his rivals had nearly 20 years' start of him in the business. Then his wife died, leaving him a large family. Efforts were made to obtain for him a national reward. Five thousand pounds was all he obtained, and he returned to Bolton almost broken-hearted. Misfortune upon misfortune overtook him till he died. Some idea may be formed of the vast services he has rendered to the world, and especially to his native land, by the fact that his is by far the most used of all spinning-machines. In 1811, the number of spindles on C.'s principle was 4,600,000, while there were only 310,500 of Arkwright's, and 155,880 of Hargreaves'. At the present time, it is conjectured that there are 25,000,000 of C.'s spindles at work. Yet this great genius was never noticed by his king, and the appointments under the Factory Acts to which his descendants might have aspired have been filled by the relatives or nominees of her Majesty's ministers. For a complete account of this great improver of the cotton manufacture, see *Life of Crompton*, by Mr. G. French, 1860.

CROMWELL, *krŭm'wel* or *krŏm'wel*, HENRY: 1628, Jan. 20—1673, Mar. 23; b. Huntingdon, England: second son of the Lord-Protector. He was educated at Felstead, entered the parliamentary army when 16 years old, had command of a troop in Fairfax's life guards when 20, and accompanied his father to Ireland as col. when 21. He was elected to parliament by Cambridge Univ. 1654, returned to Ireland as maj.gen. 1655, became lord-deputy 1657, was recalled by the govt. on the retirement of the Protector, and passed the last years of his life in Cambridgeshire as a farmer.

CROMWELL, OLIVER, Lord Protector of the English Commonwealth: 1599, Apr. 15—1658, Sep. 3; b. Huntingdon. His father was the younger son of Sir Henry Cromwell of Hinchinbrook, and a substantial country gentleman, not likely to have been a brewer, as some of Oliver's earlier biographers assert. By his mother, genealogists trace Oliver's descent from the royal house of Stuart. Of the boy Cromwell's early life little or nothing is actually known. What is clearly ascertained is, that after having been at school in Huntingdon he went to Cambridge, and entered himself of Sidney-Sussex College, 1616, Apr. 23. He had but short time for study here, his father dying in the June of the year following, when he returned home to take the management of his father's affairs. The stories of his wild life about this time appear to have no better foundation than the calumnies of his royalist opposers. In 1620, Aug., C. married the daughter of Sir James Bourchier, a gentleman of landed property in Essex, who had also a residence in London. This fact seems conclusive as to C.'s social position being much above what his enemies have described it. C. now became intimately associated with the Puritan party, among whom he was soon distinguished alike for his earnestness and sagacity. In 1628, having been elected by the borough of Huntingdon, C. made his first appearance in parliament. He had but time to make a short blunt speech about the encouragement of the 'preaching of flat popery at Paul's Cross' by the bishop of Winchester, when the infatuated king unceremoniously dispatched him and his fellow-commoners to their homes. C. returned to the fen-country, not much impressed in favor of kingcraft by his visit to London; and for the next 11 years devoted himself assiduously to the pursuit of farming by the Black Ouse river and the Cam, first at Huntingdon, then at St. Ives, and finally at Ely—making himself famous, not by political agitation, but by an effectual resistance to certain unjust schemes of the king in council for the drainage of the Fens. In 1640, he was sent to parliament as member for the town of Cambridge. His appearance at this time was by no means prepossessing. Sir Philip Warwick describes him in 'a plain cloth suit, which seemed to have been made by an ill country tailor; his linen was plain, and not very clean; and I remember a speck or two of blood upon his little band, which was not much larger than his collar. His hat was without a hat-

band; his stature was of a good size; his sword stuck close to his side; his countenance swollen and reddish; his voice sharp and untunable; and his eloquence full of fervor; and courtly Sir Philip adds: 'It lessened much my reverence unto that great council, for this gentleman was very much hearkened unto.' When all hope of reconciliation between king and parliament failed, through the perfidy of the former, C. was among the first to offer of his substance to aid in defense of the state. In 1642, July, he moved in parliament for permission to raise two companies of volunteers in Cambridge, having been careful to supply the necessary arms beforehand at his own cost. In the following month, C. seized the magazine in Cambridgeshire, and prevented the royalists from carrying off the plate (valued at £20,000) in the university there. As captain of a troop of horse, C. exhibited astonishing military genius; and against the men trained by himself—'Cromwell's Ironsides'—the battle-shock of the fiery Rupert, which at the beginning of the parliamentary struggle none else could withstand, spent itself in vain. Soon promoted to the rank of colonel, and then to that of lieut.gen., C., in the fight of Winceby, on the bloody field of Marston (1644, July 2), and in the second battle of Newbury (1644, Oct. 27), bore himself with distinguished bravery; but owing to the backwardness of his superiors, the results of these victories to the parliamentary cause were not so great as they might reasonably have been. C. thus complained in parliament of the backwardness of his superiors, Essex and Manchester: 'I do conceive if the army be not put into another method, and the war more vigorously prosecuted, the people can bear the war no longer, and will enforce you to a dishonorable peace.' Hereupon, the 'Self-denying Ordinance'—an act excluding members of the houses of parliament from holding command in the army—was passed; but C.'s services were considered of such importance to the common weal, that they were exceptionally retained. Of the new model army, Fairfax was appointed general, C. serving under him as lieut.gen. of the horse, and in this capacity he commanded the right wing of the parliamentary army at Naseby, 1645, June, and acquitted himself so well there that the king's forces were utterly ruined. The royalists in the west were now speedily reduced. Bristol was stormed; everywhere the royal cause was failing; and Charles himself, reduced to the last extremity, in 1646, May, escaped from Oxford in disguise, and threw himself into the arms of the Scotch army at Newark (1646, May 5), by whom he was shortly given up to the parliamentary commissioners. The source of the strife now fairly within their grasp, the parliament and the army, in the former of which the Presbyterian, and in the latter the Independent, element predominated, became jealous of each other's power. With his usual sagacity, C. perceived that the advantage would lie with that party who held possession of the king's person, and with ready decision he had him removed from the hands of the commissioners into those of

the army, 1647, June. Some of the leading Presbyterians were now turned out of parliament by the army, and Independency, with C. at its head, was gradually obtaining the ascendancy. The king still remained with the army, and, with his usual duplicity, negotiated with both parties, not without hope that out of their mutual dissensions might arise advantage to himself. 1647, Nov. 11, the king made his escape from Hampton Court. Two days afterward he was in custody of Colonel Hammond in the Isle of Wight. At this time the country was in a critical condition. The Welsh had risen in insurrection, a Scotch army was bearing down from the north with hostile intent, and Rupert, to whom 17 English ships had deserted, was threatening a descent from Holland, not to speak of the rampant royalism of Ireland. Prompt measures alone could prevent anarchy and inextricable confusion, and C. was not afraid to employ them. Pembroke had to surrender, and at Preston Moor the Scotch were utterly defeated. On the return of the army to London, the Presbyterians, who were still blindly temporizing with the king, to the number of more than 100, were driven out (1648, Dec.) by the process known in history as 'Pride's Purge.' Then that which C. thought the only event that could end the strife happened. In 1649, Jan., the king was tried, condemned, and put to death. The abolition of the house of lords followed speedily, and C. became a prominent member of the new council of state; and in the army, though still only lieutenant-general, he had really much more influence than the commander-in-chief. The royalists being still strong and rebellious in Ireland, C. went thither in August, with the title of lord-lieutenant, and commander-in-chief of the army there; and ere nine months had passed he had subdued the country so far that it might be safely left to the keeping of his son-in-law, Ireton. C.'s measures for crushing the Irish rebels were severe, and even sanguinary, but, nevertheless, peace and prosperity followed in a degree unknown before in the history of that unhappy country. Affairs in Scotland now claimed C.'s attention. Scotch commissioners had been negotiating with Charles II. at Breda, had urged him to come among them and take the covenant, and they would crown him king over them at least, and do what force of arms could do to make him king of England also. Charles arrived in the north of Scotland, 1650, June 23; three days thereafter, Cromwell—the Presbyterian Fairfax having refused to fight against the Presbyterian Scotch—was appointed commander-in-chief of all the parliament forces. On July 15, Charles Stuart had signed the covenant, and was fully accepted by the Scotch as king. On Sep 3, C. routed the Scotch army at Dunbar. Charles, with what force remained, and other accessions, afterward marched southward, and had penetrated to Worcester, when C. came up with him, and utterly overthrew the royalists on the anniversary of the battle of Dunbar. This battle placed C. avowedly at the head of public affairs in England, and to write his biography from this time, would be to write the history of the Commonwealth. The Long Parliament had now de-

generated into the Rump—had become, in truth, an oligarchy, given to long and useless discussions about mere technicalities—intolerable to the country alike for the extraordinary power it possessed, and for the weak, pusillanimous way in which it exercised it. C., therefore, dissolved the Rump, 1653, Apr. 20, and henceforth he alone was ruler in England. He immediately summoned a parliament of 140 persons, 138 of whom assembled July 4, but he found it necessary to dissolve it Dec. 12; its one great work having been the legal investiture of C. with the supreme power and the title of lord protector, a position upon which the principal foreign powers hastened to congratulate him. C. now acted in a very arbitrary manner, so far as his parliaments were concerned, calling them and dismissing them at pleasure; but his home policy, notwithstanding, was just and liberal toward the mass of the people, and conducive to the prosperity of the country; while his foreign policy was such as to secure England a position among nations more commanding than she had ever occupied before. Under C.'s rule, swift retribution followed any indignity or injury to Englishmen, no matter by whom or where perpetrated; and religious persecutors on the continent, in terror, stayed their bloody swords on the stern summons of the Lord Protector. He died 1658, Sep. 3, the anniversary of some of his most important victories. C. was buried in Westminster Abbey; but 1661, Jan. 30 (the anniversary of the death of Charles I.), his grave, with those of Ireton and Bradshaw, were broken open, the coffins dragged to Tyburn, where the moldering bodies were hanged, and then thrown into a deep hole under the gallows, while their heads were set upon poles on the top of Westminster Hall. Such was the sacrilegious brutality of the king and clergy (for the deed was done by their authority) toward England's greatest ruler. It was long a fashion with historians, content to rely upon the calumnies and falsehoods of royalist writers, to represent C. as a monster of cruelty and hypocrisy—a man with a natural taste for blood, who made use of religious phraseology merely to subserve his own ambitious ends; but after the researches of Carlyle and Guizot, the eloquence of Macaulay, and the clear statement and sound sense of Forster, such a view can no longer be held. C.'s religion was no mere profession, it was the very essence of the man; by nature, he was not a blood-shedder, and when necessity demanded the grim exercise of the sword, he unsheathed it with reluctance. Never was a religious man less of a bigot; he would not, so far as his iron will could effect his purpose, permit any one to be persecuted for religious opinions. He delivered Biddle, the founder of English Unitarianism, out of the hands of the Westminster divines. He would have even given the despised and persecuted Jews the right hand of citizenship. He grasped power, and dispensed with the formality of parliaments, only because in a time of fearful crisis, and of plots and intrigues on every side, he sought to promote, in the speediest possible manner, the prosperity, happiness, and glory of his native land.

CROMWELL.

CROMWELL, RICHARD: son of Oliver, Lord Protector of England: 1626, Oct. 4–1712; b. Huntingdon; in early life, he was noted chiefly for indolence and love of pleasure, qualities that united him more closely to the cavaliers than to the party of earnest men of which his father was the chief. When Oliver attained the dignity of lord protector, he called his son from the obscurity of a country-house, and his field-sports, to have him elected for the counties of Monmouth and Southampton, appointed him first lord of trade and navigation, and made him chancellor of Oxford. In none of these capacities did Richard C. exhibit any aptitude; and his failure as protector, to which high office (being the eldest surviving son) he succeeded, on the death of his father 1658 Sept.—was still more conspicuous. With a mediocre intellect, and no energy, with hardly a friend in the army, and with the first parliament that he called against him, the result could not be otherwise than it was—his demission, 1659, Apr.—little more than seven months after he had assumed the sceptre of the Commonwealth. He retired to Hampton Court, whence parliamentary stinginess and pressing creditors soon drove him to the continent, where he resided for a considerable period. At length, returning to England, he had a house provided for him at Cheshunt, near London, where he resided in strict privacy until his death.

CROMWELL, THOMAS: English statesman and ecclesiastical reformer, of the reign of Henry VIII.: abt. 1490–1540, July 28; b. near London, in very humble circumstances, his father being a blacksmith. After a very meagre education, he went to the continent, and became clerk in a factory at Antwerp, where he gave his spare time to the acquisition of languages, in which he became very proficient. In 1510, he went into Italy, where he appears to have resided until about 1517, when he returned to England; and, after some time, was received into the household of Wolsey. That prelate, speedily recognizing his abilities, made him his solicitor and chief agent in all important business. As a member of the house of commons, C. warmly and successfully defended the fallen minister, his master, against the bill of impeachment—proof enough that he was not the heartlessly ambitious man that his enemies have represented him. Henry, admiring his chivalry, and appreciating his talent, made him his own secretary; knighted him in 1531, and made him a privy-councilor. Honors rapidly flowed in upon him; partly in consequence, it is said, of his having suggested to Henry the desirableness of throwing off the papal yoke altogether—an idea which suited well with the king's impetuous nature—but chiefly, no doubt, on account of his great abilities. In 1534, he had become chief sec. of state, and master of the rolls; in the following year, he was made visitor-gen. of English monasteries—which he afterward suppressed in such fashion as to obtain for himself the designation of *Malleus Monachorum*—and keeper of the privy seal in 1536. In 1539—to pass over a variety of minor tokens of royal approbation—he had

risen to be Earl of Essex—having had some 30 monastic manors and estates given him to keep up the dignity of his title—and Lord Chamberlain of England. C. led in establishing the doctrines of the Reformation, though he seems to have done so less on religious than on political grounds. The destruction of the pope's authority, and the establishment of the supremacy of the king in England, were what he labored to effect; and with this view, he promulgated the articles of the new faith, had English Bibles placed in the churches, and the youth of the nation taught the Creed, the Ten Commandments, and the Lord's Prayer; and ordered the removal of all images from the altar. In this matter of ecclesiastical polity, he has, says Mr. Froude (Vol. III of his *History of England*), 'left the print of his individual genius stamped indelibly, while the metal was at white heat, into the constitution of the country. Wave after wave has rolled over his work. Romanism flowed back over it under Mary; Puritanism, under another even grander Cromwell, overwhelmed it. But Romanism ebbed again, and Puritanism is dead, and the polity of the Church of England remains as it was left by its creator.' In all that concerned the state, in its vastest and most complicated foreign relations, as well in the smallest matters of sanitary reform at home, C. took an active personal interest. But the stern, almost savage manner in which, in the carrying out of his policy, he disposed of all who opposed him, led to many and loud complaints, which damaged somewhat his popularity with the king. In order to retrieve his lost ground, he was zealous in promoting the marriage of Henry with Anne of Cleves, from whom, on account of her known Lutheran tendencies, he expected strong support. The success of his efforts in this matter proved the utter ruin of C., for the king, early conceiving a strong aversion to his unlovely queen, extended that dislike to the minister who had so strenuously promoted the marriage. Complaints against C. poured in thicker and faster, and the royal ear was not unwilling to listen now. Charges of malversation and treason were made, and he was arrested and thrown into prison 1540, June 10; a bill of attainder was quickly drawn up, and passed the two houses of parliament with little difficulty; and on July 28, C. laid his head on the block on Tower Hill.

CRONE, n. *krōn* [Gael. *cronan*, a low murmuring sound; *erion*, dry, withered: Scot. *croon*, a hollow continued moan]: a name applied to a supposed witch who sings or chants her incantations; an old woman; in *OE.*, an old ewe. CRONY, n. *krō'nī*, an intimate companion or acquaintance.

CRONJE, PIET: a Boer commander; b. in 1835 in the Orange Free State (now Orange River colony); was conspicuous for years in the affairs of the South African republics. During the British-Boer war 1899-1902, he was in command of the Orange Free State forces. He conducted the campaign on the Modder river and the sieges of Mafeking and Kimberley. On 1900, Feb. 27, he surrendered to Lord Roberts. He was exiled to St. Helena in May following.

CRONSTADT—CROOK.

CRONSTADT, *krōn'stāt* (Hungarian *Brasso*): town of Transylvania, romantically situated amid the East Carpathians, 2,000 ft. above the sea; lat. $45^{\circ} 36' \text{ n.}$, long. $25^{\circ} 33' \text{ e.}$ It consists of an inner town, surrounded by walls, and of three extensive suburbs. The centre town, which dates from the 13th c., is well and regularly built, and contains some handsome buildings, chief of which is a Gothic Prot. church, built in the 14th c. This part is almost exclusively inhabited by Saxons. The suburbs, surrounded with gardens and orchards, with here and there the hoary ruins of some old castle, or the sloping roofs of some modern villa, rising above the trees, have a pleasant and picturesque appearance. The suburbs are occupied chiefly by Wallachs and Magyars. Linens, cottons, coarse woollens, hosiery, paper, etc., are manufactured here in considerable quantities. C. was the first town in Transylvania where a printing press was established, and the first issues from it were the *Augsburg Confession*, and the works of Luther. Pop. (1880) 29,584; (1890) 30,724; (1900) 36,646.

CRONSTADT: strongly fortified seaport, about 20 m. w. of St. Petersburg, on a narrow calcareous island abt. 5 m. long; at the narrowest part of the Gulf of Finland, over against the mouth of the Neva; lat. (of cathedral) $59^{\circ} 59' 46'' \text{ n.}$, long. $29^{\circ} 46' 38'' \text{ e.}$ C. is at once the greatest naval station and the most flourishing commercial port of Russia. It was founded by Peter the Great 1710, the island having been taken from the Swedes by him 1703. Its fortifications, which protect the approach to St. Petersburg, have been an object of great attention to the Russian government. The batteries are very numerous, defending every part of the channel by which vessels can enter. They all are of granite, and armed with the heaviest ordnance. The place, indeed, was considered by the British admiral who reconnoitered it during the Russian war of 1854-5, so impregnable that it would have been madness to make any attempt upon it. C., which is the seat of the Russian Admiralty, has three harbors: the east, intended for vessels of war, and capable of accommodating 30 ships of the line; the middle harbor, where vessels are fitted up and repaired, and which is connected with the former by a broad canal; and the west or Merchant's Harbor, for the merchant-shipping, with capacity for 1,000 vessels; all are admirably defended. Not only the trade of St. Petersburg is conducted through this port, but that of a great part of the interior of Russia, which is connected with it by navigable rivers and canals. C. contains many well-built houses. Pop. (census 1897, with the garrison of about 20,000 men) 59,539; in winter much less.

CROOK, n. *krúk* [Icel. *krókr*, a hook: Dut. *kroke*, a fold, a curl: Dan. *krog*; Gael. *crocan*, a hook]: anything bent; a curve; a shepherd's staff curved at the end: in *OE.*, a gibbet: in *musical instruments*, such as the French-horn or trumpet, a circular tube, which fits into the end of the instrument next the mouthpiece, for the purpose of making

the pitch of the instrument suit the key of the music; the notes of the parts for these instruments being always written in the natural key of C., with the name of the key of the piece marked in letters. SHEPHERD'S CROOK: see PASTORAL STAFF. CROOK, *v.* to bend; to curve; to turn from a straight line. CROOK'ING, *imp.* CROOKED, *pp.* *krûkt*: *ADJ.* *krûk'êd*, bent; curved; awry; winding; perverse; deceitful; without rectitude. CROOK'EDLY, *ad.* *-êd-lî*. CROOK'EDNESS, *n.* state of being crooked; a winding or bending. CROOK-BACK, a hunchback.

CROOK, GEORGE: 1828, Sep. 8—1890, Mar. 21; b. near Dayton, O.: soldier. He graduated at the U. S. Milit. Acad. 1852; entered the 4th U. S. inf.; served in Cal. 1852-61; and accompanied the Red River expedition 1856, and commanded the Pitt River expedition 1857. At the beginning of the civil war he was commissioned col. 36th O. vols.; commanded the 3d provisional brigade in W. Va. 1862, May—Aug.; was in the n. Va. and Md. campaigns Aug. and Sep.; and was brevetted lieut.col. U. S. A. for services at Antietam. In 1863 he held important commands in Tenn., and was engaged at Tullahoma, Hoover's Gap, Chickamauga, and in the pursuit of Wheeler's Confederate cav.; 1864 made numerous raids in n. Va., and was conspicuous in Sheridan's Shenandoah campaign; 1865 brevetted brig.gen. and maj.gen. U. S. A., commanded the cav. of the Army of the Potomac Mar. and Apr., and was present at Dinwiddie Court House, Jetersville, Sailor's Creek, Farmville, and the surrender at Appomattox; and 1865 Sep.—1866, Jan., commanded at Wilmington, N. C. He was commissioned lieut.col. 23d U. S. inf. on the reorganization of the army 1866; was engaged in Indian campaigns in Ida. till 1872; commanded the Ariz. dist., and suppressed several Indian disturbances 1872-5; commanded the dept. of the Platte, and defeated the Sioux and Cheyenne Indians at Powder River, Tongue River, Rosebud River, and Slim Buttes 1875-82; resumed command of Ariz., and encouraged the Apache Indians to engage in agriculture 1882; captured the Chiricahua raiders on the n. Mexican boundary 1883; and had general charge of the Indians 1883-86. In 1873 he was promoted brig.gen. U. S. A., and 1888, Apr. 6, succeeded Gen. Terry as maj.gen., and was placed in command of the div. of the Missouri, with headquarters at Chicago, where he died.

CROOKED ISLAND: one of the Bahamas; area 160 sq. m.; s.e. of Long Island, of which the n.w. extremity forms nearly the middle point of the chain. In common with some others of the group, it is valuable chiefly for its salt. In the exportation of this article, C. I. appears to stand third in order, its share counting about 12,000 bushels annually. The Bahama salines are more important from the fact that, for the curing of fish, salt obtained by solar evaporation is preferred to that procured from mines. Pop. 630.

CROOKS, GEORGE RICHARD, D.D., LL.D.: Meth. Episc. clergyman and author: b. Philadelphia, 1822, Feb. 3. He graduated at Dickinson College 1840; was ordained to the

Meth. Episc. ministry 1841; teacher and adjunct prof. or Latin and Greek in Dickinson College 1841–8; held charges in Philadelphia, Wilmington, New York, and Brooklyn 1848–80; edited *The Methodist* 1860–75; and since 1880 has been prof. of church history in Drew Theol. Seminary. In conjunction with Dr. McClintock he published *The First Book in Latin* (1846); with Prof. Schem, *Latin-English School Lexicon* (1858–82); with Dr. Hurst, an adaptation of Hagenbach's *Theological Encyclopædia and Methodology* (1884); and individually an ed. of *Butler's Analogy* (1852); *Life and Letters of the Rev. Dr. John McClintock* (1876); and *Sermons of Bishop Matthew Simpson* (1885). D. 1897.

CROON, n. *krôn* [an imitative word (see CRONE): Gael. *crònan*, any low monotonous sounds; *cron*, time]: a low continued moan; a plain simple melody; the soft moan of doves: V. to make a continuous low noise; to sing in a low tone, or softly; to keep time in a dirge. CROON'ING, imp. CROONED, pp. *krónd*.

CROP, n. *kröp* [AS. *crop*, top, craw of a bird: Gael. *crap* or *cnap*, a knob, a little hill: W. *crofa*, the crop or craw of a bird: Icel. *kroppr*, a bump on the body: OF. *crope*, the top or protuberance of a hill: Dut. *krop*, the knob of the throat: Ger. *kropf*, the craw of a bird—*lit.*, the head, top, or prominent part of a thing]: craw of a bird; first stomach into which a bird's food descends; anything gathered into a heap; the gathered harvest; corn or other vegetable products while growing, or after being gathered; hair cut close: V. to cut or pluck the ends or tops off; to mow or reap; to sow or plant. CROP'PING, imp.: N. the act of cutting off; the raising of crops. CROPPED, pp. a. *kröpt*, plucked; cut short; eaten off. NECK AND CROP, altogether; at once; bag and baggage. TO CROP OUT, in *geol.*, to come to the surface, as the edge of any inclined stratum, which is called the *crop* or *outcrop*: the line of outcrop of a bed along a level surface is called its *strike*. CROP'FUL, n. *-fúl*, a full crop or belly. CROP'PER, n. *-pér*, a pigeon with a large crop. CROP-SICK, sick from excess in eating or drinking. CROP-EAR, an animal having its ears cropped.

CROPSEY, *kröp'si*, JASPER FRANCIS: painter: b. Rossville, N. Y., 1823, Feb. 18. He first studied architecture, then landscape painting with Edward Maury; made a tour of England, France, Italy, and Switzerland 1847; had a studio in London and exhibited in the Royal Acad. 1855–63; was established in New York 1863–85; and has since had a studio at Hastings, N. Y. He was elected a member of the National Acad. of Design 1851, and exhibited at the International Exhibition at London 1862. His paintings include *Jedburgh Abbey*; *Pontine Marshes* (1847); *Backwoods of America* (1857); *Richmond Hill* (1862); *Greenwood Lake* (1870); *Lake Nemi in Italy* (1879); *Old Church at Arretton* (1880); *Ramapo Valley* (1881); *Autumn on the Hudson* (1882); *Wawayanda Valley* (1883); *Springtime in England* (1884); *October in Ramapo Valley* (1885); *Autumn on Lake George* and *A Showery Day* (1886). D. 1900.

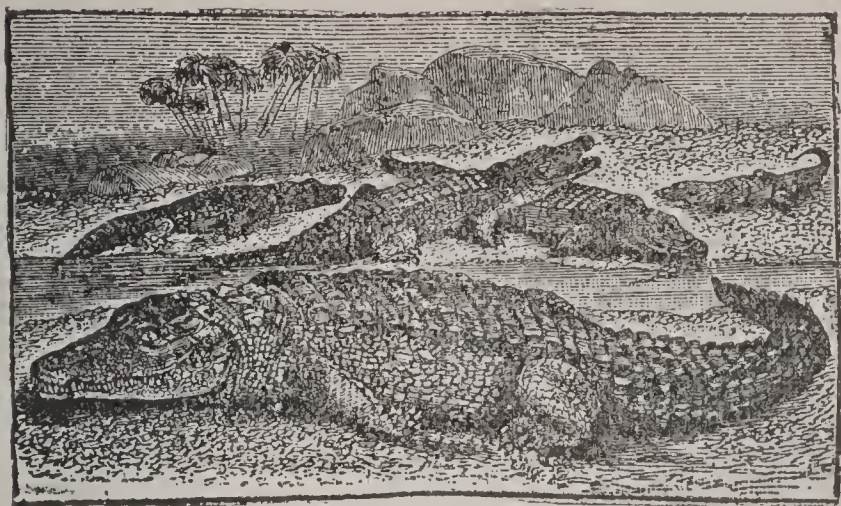
CROQUET.

CROQUET, n. *krō-kū'* or *krō'kū* [F. *croquet*, crisp bread, a hard bake or biscuit. *Note.*—This word is a F. spelling only, and its origin is doubtful: perhaps it is merely a corruption of an imitative cry, such as, *croc croc*; or, from mid. L. *croca*, a curved stick; Icel. *krokr*, a crook]: open-air game, in which two or more players endeavor to drive balls, by means of mallets, through a series of arches set in the ground according to some pattern. The player who first makes the complete tour of arches and stakes wins; but during the game each player may have the progress of his ball retarded by his adversaries, or assisted by his allies. Although generally spoken of as a modern game, it seems to be really a revival with modifications of the sport with a mallet and ball which was popular in England in the days of the Stuarts, and gave the name Pall Mall to localities in various towns in England as well as on the continent (see BALL). The name (It. *palla*, a ball, and *maglio*, mallet; Fr. *palemaille*), suggests an Italian origin; but the game was early in vogue in France, and thence passed into England, probably in the beginning of the 17th century. Blount's *Glossographia* describes the game (see BALL), and gives figures of the mallets. This game seems to have gone out of fashion early in the 18th century. Who resuscitated it in its modern form, and how it got the name of croquet, are questions that have not been answered. Since 1850, C. has been a favorite game, and was for a time the most prevalent of all summer amusements, though latterly it has largely given place to lawn-tennis.

The game may be very well played on a well-rolled close-cut lawn, but for delicacy and accuracy of play, and for scientific skill, the modern ground is made a perfectly level hard-rolled sanded field. All tournament games must be played on a ground of this kind. The sanded surface gathers no dampness as evening hours approach (the most common time for play, especially in warm weather); and the caution against damp feet on the dew-covered grass is unnecessary. Lawn-C., however, is not to be discouraged. From the ranks of good lawn-players the best scientific players have come; and it fosters a love for the game.

In preparing the C. field, the top-soil should be sifted if necessary to free it from stones and pebbles, and covered after hard rolling with a very slight sprinkling of fine sand. The allotted field should be surrounded by an upright board or other barrier four or five inches high to keep the balls within limits, with corner pieces 18 inches long. An inside boundary line is made about three feet within the outside barrier, upon which to place balls in position for play that have passed over the boundary line and have not rolled back. It is simply a mark or scratch in the sand made around the field; and the three feet between this inside and the outside bound may well be a slope, so that the balls may roll back gently.

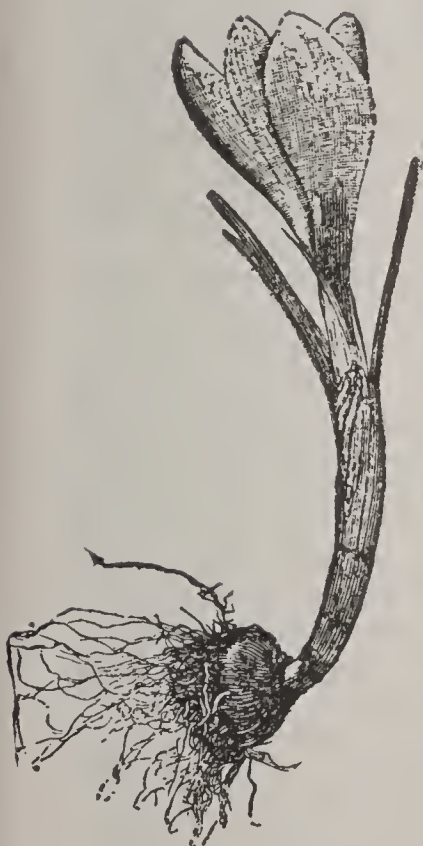
The C. field should measure 80x45 ft. The surface should be well-rolled dirt, lightly sanded to hold the balls. The arches must not be more than four inches in width and eight to ten inches above ground. In all prize tournament games the arches must be not more than three and three-fourth inches



Crocodile.



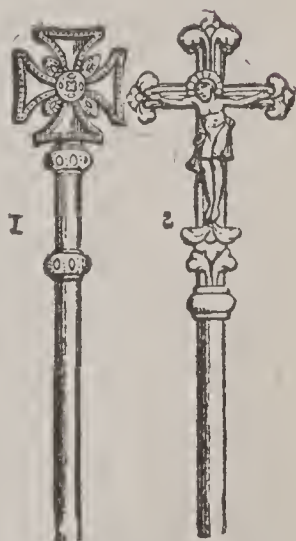
Cromlech at Lanyon, Cornwall.



Spring Crocus (*Crocus vernus*).
Vol. 8.



Head of a Crosier.



Crosiers: 1, From tomb of Archbishop Warham, Canterbury; 2, From drawing in British Museum.

in width, and the 'cage' or centre wicket must be not more than three and one-half inches in width by 18 inches in length. This wicket must be set in the centre of the field with its long axis at right angles with a line drawn from stake to stake. It is so situated to make the 'wiring' of balls more difficult.

The arches should be sunk into the ground six or eight inches, or set in blocks of wood, buried under the surface, to insure stability. When the ground will admit of it, the stakes should be placed 70 ft. apart; the first arch 7 ft. in front of the starting stake; the second, 7 ft. from the first; the third, 14 ft. to the right, and one foot in advance, of the second; the fourth on a line with the first and second, and 21 ft. in advance of the second; the remaining five at the same relative distances: thus there will be five arches in line between the stakes, and four wing arches. It will be seen from the above that the course of play is from the second arch to the third on the right.

The mallets should be of boxwood, seven or seven and one-half inches long, by two and one-fourth to two and one-half inches in diameter, and the handle from eight to fifteen inches in length, as best suits the player. The best balls are of hard rubber; and in all National Association games they must be of hard rubber, three and one-fourth inches in diameter. They can be easily painted, by using a preparation of shellac dissolved in alcohol, mixing with Chinese vermilion for red, Prussian blue and zinc or flake white for blue; and zinc or flake white for white. Thus painted they will dry in a few minutes and wear for several days.

C. is as scientific as billiards, but with a greater field (literally as well as otherwise) for strategy, the exercise of deliberate judgment, nerve, coolness and boldness of play. The eye and the hand become trained. Lawn-tennis calls for muscular action in immediate response to counter-play: judgment must be instantaneous, and muscular movements rapid and fatiguing. C. stands in strong contrast with its deliberate strokes, its moderate exercise and non-fatiguing efforts even when prolonged.

The chief points of excellence in C. may be enumerated as follows:

First: Accuracy in croquetting or making one ball hit another from the blow of the mallet. Here the accurate eye and the trained hand are needed, for at a distance of 80 ft. a ball $3\frac{1}{4}$ inches in diameter subtends a very small angle, and a very small divergence of the line of direction of the impinging mallet will cause the struck ball to go wide of its desired course.

Second: Ability to take position in front of arches so as to pass through them successfully, for the arches being only $3\frac{1}{2}$ inches wide give little chance of passing through to a ball of $3\frac{1}{4}$ inches when in a 'wild position.'

Third: 'Wiring' or 'staking' an adversary's ball so as to leave no ball 'open' or 'exposed.' This is done sometimes from a distance of 15 or 20 ft.

Fourth, and greatest of all, is good generalship, without which all excellence attained in the three preceding points

will be vain in a hard-fought game. Closely associated with the first is the ability to 'drive' or 'block' the ball at a certain angle to reach a position desired. This will be attempted only when balls are near together, for at a long range roquet only is attempted. Perhaps 'jump-shooting' ought to be added to these, by which players frequently are relieved from an otherwise inextricable position by a peculiar downward stroke on the top of the ball just back of its centre, causing the ball to pass over one or more intervening arches and 'capture' a ball supposed to be safe from all danger.

In this as in every other game there are certain general principles which should guide one in his play.

As regards position in striking, a player should suit himself. Too long an aim is to be avoided: a quick stroke after getting the line between two balls is generally the most accurate; but there is one point that all must observe if the ball is to hit the mark: after getting the line of aim, and the mallet resting ready for the stroke, the player's eyes should be kept fixed on his own ball. Any deviation from this rule, either for short or long shots, will end in failure.

As to a few general principles to be observed:

First: Keep your own balls together, and separate those of your adversary.

Second: Keep with you or your partner the 'innocent' or last played ball of your adversary.

Third: Keep the 'guilty' or next playing ball of your adversary wired as much as possible.

Fourth: When you can make no further run, give your partner the best set-up you can.

Fifth: Do not play for the guilty ball, when if you miss you give him a chance better than he has before.

Sixth: If you have but a poor chance to make a run, set up the balls for your partner.

Seventh: In making a run, provide as much as possible for points ahead. Do not leave balls behind you if you can avoid it.

The following (adopted New York, 1885) are the Rules of the National American Croquet Association, with the substance of this article, are from the manual of A. G. Spalding & Bros., New York, authorized publishers for the association.

INTERFERING WITH PLAYERS.

1. No player or other person shall be permitted to interfere with the result of a game by any word or act calculated to embarrass the player, nor shall any one speak to a player while in the act of shooting, except a partner.

ORDER OF COLORS.

2. The order of colors shall be red, white, blue, black.

MALLETS.

3. There shall be no restriction in kind or size of mallet used—one or two hands may be used in striking.

4. No player shall change his mallet during a game without permission of his opponent, except in case of accident, or to make a 'jump-shot.'

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5. Should a ball or mallet break in striking, the player may demand another stroke, with a new ball or mallet.

CLIPS OR MARKERS.

6. Every player shall be provided with a clip or indicator, the same color as his ball, painted on one side only, which he must affix to his arch next in order in course of play, before his partner plays, with the painted side showing the direction in which he is going. Should he fail to do so, his clip must remain upon the arch it rested on before he played, and he must make the points again. Should he move his marker beyond or back of the point he is for, his attention must be called to such error before he plays again, otherwise it shall be allowed to stand. Should a player put a ball through its arch, he must at once move the corresponding clip.

OPENING OF GAME.

7. The game shall be opened by scoring from the upper border for an imaginary line drawn through the middle wicket.

8. The first play with each ball shall be made after placing it on a line half-way between the starting stake and the first arch, and play may be made for the arch on any ball that is in play, or in any direction the player may choose.

9. A ball for the first arch failing to make it, must remain where it rests. It can be roqueted, roquet-croqueted, and can, in its proper turn, roquet and roquet-croquet any ball on the field, the same as though it had run the arch.

BALLS: HOW STRUCK.

10. The ball must be struck with the face of the mallet, the stroke being delivered whenever touching the ball it moves it. Should a stake or wire intervene, the player cannot strike them unless the ball is struck at the same time, and if the ball is moved, without being struck by the face of the mallet, 'it shall remain where it rests, and should a point be made, or hit, it shall not be allowed, except by the decision of the umpire as to the fairness of the shot.'

11. When making a direct shot (i.e., roquet), the player must not push or follow the ball with his mallet; but when taking croquet from a ball (two balls being in contact), he may follow his ball with the mallet, but must not strike it twice.

12. If a player strikes his ball before his opponent has finished his play, the stroke shall stand, or be made over, at the option of the opponent.

13. Should a ball rest against or near a wire, and the umpire, or other person agreed on, should decide that in order to pass through the arch less than half the ball would be on the far side when impinging on the opposite wire, it shall be considered a push shot and shall not be made.

BALLS: WHEN NOT TO BE TOUCHED.

14. A ball must not be touched while on the field, ex-

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cept after a roquet, when it is necessary to place it beside the roqueted ball for the purpose of croquet, or to replace it when it has been moved by accident—except by permission of the opponent.

ROQUET AND CROQUET.

15. A ball roquets another when it comes in contact with it by a blow from the player's mallet, or rebounds from a wicket or stake, also when it comes in contact with it when roquet-croquet is taken from another ball; but not when rebounding from any obstacle that marks the limit of the field; and should a ball be thus moved, it shall be replaced before play can proceed.

16. A player after making roquet shall not stop his ball for the purpose of preventing its hitting another. Should he do so, his play ceases and all balls shall be replaced as before the stroke, or remain, at the option of the opponent.

17. Loose croquet, or roquet-croquet, is striking a ball when it is in contact with another where it has been placed for the purpose of croquet, after roqueting it.

18. Roquet gives to the player the privilege of roquet-croquet only, and play must be made from the roqueted ball.

19. If a player in taking a roquet-croquet from a ball fails to move it, such stroke ends his play, and the ball must be returned, or left where it stops, at the option of the opponent.

20. A player, in each turn of play, is at liberty to roquet any ball on the ground once only before making a point.

21. Should a player roquet-croquet a ball he has not roqueted, he loses his turn, and all balls moved by such play must be replaced to the satisfaction of the umpire, or adversary. Should the mistake not be discovered before the player has made another stroke, the play shall be valid and the player continued his play.

22. In taking roquet-croquet from a ball, if player's ball strikes another that he has already croqueted, such stroke does not end his play.

23. If a player roquets two or more balls at the same stroke, he must use the first ball roqueted only.

MAKING OF POINTS.

24. A player makes a point in the game when he runs an arch or strikes a stake in his proper play.

25. If a player makes a point, and afterwards at the same stroke roquets a ball, he must take the point, and use the ball. If the roqueted ball is beyond the arch, as determined by rule 46, and playing ball rests through the arch, the arch is held to be first made.*

26. If a ball roquets another, and afterwards at the same stroke makes a point, it must take the ball and reject the point.†

* While this is not mathematically correct, the rule is so made to avoid disputes and difficult measurements.

† See note to rule 25.

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27. A player continues to play so long as he makes a point in the game, or roquets another ball to which he is in play.

28. A ball making two or more points at the same stroke has only the same privilege as if it made but one.

29. Should a ball be driven through its arch, or against its stake, by roquet-croquet or concussion, it is a point made by that ball, except it be a rover.

PLAYING ON DEAD BALL.

30. If a player play by direct shot on a dead ball, all balls displaced by such shot shall be replaced in their former position, and the player's ball placed against the dead ball on the side from which it came; or all balls rest where they lie, at the option of the opponent.

31. If a player, in making a direct shot, strike a ball on which he has already played, i.e., a dead ball, his play ceases. Any point or part of a point or ball struck, after striking the dead ball, is not allowed. And both balls must be replaced in accordance with rule 30.

But if playing ball in passing through its arch strike a dead ball that is beyond the arch, as determined by rule 46, the ball shall not be considered a dead ball if playing ball rests through its arch, and the point shall be allowed.†

BALLS MOVED OR INTERFERED WITH BY ACCIDENT OR DESIGN.

32. A ball accidentally misplaced, otherwise than as provided for in rule 37, must be returned to its position before play can proceed.

33. If a ball is stopped or diverted from its course by an opponent, the player may repeat the shot or not as he chooses. Should he decline to make the shot over, the ball must remain where it stops, and, if playing ball, must play from there.

34. If a ball is stopped or diverted from its course by a player or his partner, the opponent may demand a repetition of the shot if he chooses. Should he decline to do so, the ball must remain where it stops, and, if playing ball, must play from there.

35. If a ball, while rolling, is stopped or diverted from its course, by any object inside the ground, not pertaining to the game or ground, other than provided for in rules 33 and 34, the shot may be taken over, or allowed to remain at the option of the player. If not taken over, the ball must remain where it stops, and, if playing ball, play from there.

BALLS IN CONTACT.

36. Should a player, on commencing his play, find his ball in contact with another, he may hit his own as he likes, and then has subsequent privileges the same as though the balls were separated an inch or more.

† A dead ball displaced by other than direct shot shall not be replaced.

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FOUL STROKE.

37. Should a player in making a stroke move with his mallet any other than his object ball, it shall be a foul and his play ceases, and all balls moved shall be replaced as before the stroke, or remain where they rest, at the option of the opponent.

See rules 10, 11, and 12.

BOUNDARY LINES.

38. A ball shot over boundary line must be returned at right angles from where it stops before play can proceed.

39. A ball is in the field, only when the whole ball is within the boundary line.

40. No play is allowed from beyond the boundary line, except when a ball is placed in contact with another for the purpose of roquet-croquet.

41. If a player strikes his ball when over the boundary line, he shall lose his stroke and the balls shall be replaced or left where they stop, at the option of the opponent.

42. If a player roquet a ball that is off the field, either by direct shot or from roquet-croquet, the stroke shall not be allowed; and such roqueted ball shall be placed in the field opposite the point where it lay, before being thus hit. And if such roquet ball is made by a direct shot, the play ceases.

43. The first ball driven over the boundary line into a corner must be placed on the corner at the intersection of the two boundary lines.

44. If a ball, having been struck over the boundary line, is returnable at the corner, another ball being on or entitled to the corner, it shall be placed on that side of the corner on which it went off.

45. If two balls having been shot over the boundary line rest directly behind one another at right angles with boundary line, they shall be placed on the line alongside of each other in the direction from whence they were played off. This can occur only when the centres of the two balls rest directly behind one another at right angles with the boundary line.

BALL: WHEN THROUGH AN ARCH.

46. A ball is not through an arch when a straight edge, laid across the two wires on the side from whence the ball comes, touches the ball without moving the arch.*

BALLS. WHEN IN POSITION.

47. If a ball has been placed under an arch, for the

* The English rule on Dead Boundary is as follows:

If, in taking croquet, the striker send his own ball or the ball croqueted off the ground, he loses the remainder of his turn; but if by the same stroke he makes a roquet, his ball being in hand, may pass the boundary without penalty, provided the croqueted ball does not pass the boundary. Should either ball, while rolling after a croquet, be touched or diverted from its course by an opponent, the striker has the option of taking the stroke again or not (in accordance with rule 33 of these rules) and is not liable to lose his turn should the ball which has been touched or diverted pass the boundary.

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purpose of roquet-croquet, it is not in position to run that arch.

48. If a ball be driven under its arch from the wrong direction, and rests there, it is not in position to run that arch in the right direction.

49. If a ball shot through its arch in the right direction, rolls back through or under that arch, the point is not made, but the ball is in position if left there.

HITTING BALL WHILE MAKING WICKET.

50. Cage wickets may be made in one, two, or more turns, provided the ball stops within limit of the cage.

51. Any playing ball within, or under, a wicket, becomes dead to advancement through the wicket from that position, if it comes in contact with any other ball by a direct shot.

ROVERS.

52. A rover is a ball that has run every arch and hit the turning stake in its proper turn of play.

53. A rover has the right of roqueting and roquet-croqueting every ball on the ground once during each turn of play, and is subject to being roqueted and roquet-croqueted by any ball in play.

54. Rovers must be continued in the game until partners become rovers, and go out successive, and a rover that has been driven against the stake cannot be removed to make way for the next rover.

PLAYING OUT OF TURN, OR WRONG BALL.

55. If a player plays out of his proper turn, whether with his own or any other ball, or in his proper turn plays the wrong ball, and the mistake is discovered before the next player has commenced his play, all benefit from any point or points made is lost, and his turn of play forfeited. All balls moved by the misplay must be returned to their former position by the umpire or adversary. If the mistake is not discovered until after the next player has made his first stroke, the error must stand.

POINTS REMADE.

56. If a player makes a point he has already made his marker not being on that point, and the mistake is discovered before the next point is made, the play ceases with the shot by which the wicket was remade, and the marker remains where it stood at the beginning of this play. All balls shall be left in the position they had at the time the wicket was remade. If not discovered before the next point is made, the points so made are good, and play proceeds the same as if no error had been made.

ERROR IN ORDER OF PLAY.

57. If an error in order is discovered after a player has struck his ball, he shall be allowed to finish his play provided he is playing in the regular sequence of his partner's ball last played. In case of dispute as to proper sequence of balls, it shall be decided by the umpire; if there is no

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umpire, by lot. No recourse shall be had to lot unless each party expresses the belief that the other is wrong,

57. At any time an error in order is discovered, the opposite side shall follow with the same ball last played; (the proper sequence); but before playing, their opponents shall have privilege to demand a transposition of adversaries' balls.

Example.—Black plays by mistake after red—the error is not discovered—blue plays in the proper sequence of his partner red, and seeing that black has just played, is thus led to believe it the innocent ball, and upon concluding his play leaves black by red. Now if error in order is discovered, the player of red and blue can demand that the position of black and white be transposed.

CHANGING SURFACE OF GROUND.

59. The surface of grounds shall not be changed during a game by either player, unless by consent of the umpire; and if so changed at the time of playing, the shot shall be declared lost.

CORNER PIECES.

60. In all subsequent construction of grounds a corner piece eighteen inches in length shall be inserted, leaving the boundary of the grounds inside, however, square at the corners.

PENALTY: GENERAL RULE.

61. If a rule is violated, a penalty for which has not been provided, the player shall cease his play.

TERMS USED IN CROQUETS.

To Roquet.—To hit with one's own ball another ball for the first time.

To Croquet.—To place player's ball against the roqueted ball and then striking his own ball, moving both.

In Play.—A ball is in play so long as points are made, or balls hit in accordance with the rules.

Points.—See rule 24.

Dead Ball.—The ball on which the player has played since making a point. It is then *dead* to the player till he makes another point.

Direct Shot—Roquet.—This is a direct shot, whether the ball in passing to its destination does or does not carom from a wire or stake.

Drive or Block—English 'Rush.'—A roquet played so as to send the object ball to some desired spot.

Cut.—To drive the object ball to a desired position, by causing player's ball to hit it on one side.

Run or Break.—The making of a number of points in the same turn.

Set Up.—To locate the balls, so as to afford facility for making the next point or run.

Wiring.—To so leave the balls, that the next player find a wire or stake between his ball and the object ball.

Object Ball.—The ball at which the player aims.

Jump-shot.—Striking the ball so as to make it jump over

CRORE—CROSIER.

any obstacle between it and the object aimed at. To do this, the ball should be struck with considerable force on the top just back of the centre.

Guilty Ball.—The next player on the adversary's side.

Innocent Ball.—The last played ball of the adversary.

Rover.—One who has made all the points except the last.

The National American Croquet Association meets in Norwich on the Monday preceding the third Tuesday in August. In New York are grounds corner of 88th st. and Madison ave.: also at Mariner's Harbor, Staten Island, and at New Brunswick, N. J. Philadelphia has grounds at 22d and Brown sts. Danbury, New London, and Hartford, Conn., also Florence, North Adams, and Malden, Mass., have good grounds. Cottage City, Martha's Vineyard, has five grounds for summer play; and at Saratoga Springs there is a good ground.

The western clubs have a style of play a little different; but it would be easy to unify all existing games of the so-called 'loose' or 'tight' croquet. At Elyria, Ohio, are covered grounds and fine players.

CRORE, n. *krôr*: in the *East Indies*, 100 lacs of rupees, equal to about one million sterling; ten millions, not necessarily of rupees only.

CROSBY, *kroz'bŭ*, HOWARD, D.D., LL.D.: Presb. clergyman: b. New York, 1826, Feb. 27. He graduated at the Univ. of the City of New York 1844, was appointed prof. of Greek there 1851, and in Rutgers College 1859; ordained 1861, and pastor First Presb. Church, New Brunswick, 1861-63; and pastor Fourth Ave. Presb. Church, New York, since 1863. He was chancellor of the Univ. of the City of New York 1870-81; moderator of the Gen. Assembly of the Presb. Church in the U. S. A. 1873; member of the American Bible Revision Committee 1870-81; and was president of the Soc. for the Prevention of Crime from 1877. He received the degree D.D. from Harvard 1859, and LL.D. from Columbia 1872. Died 1891, March 29.

CROSIER, n. *krō'zhēr* [see CROSS 1 and CRUTCH]: a cross-shaped crutch; in *ecclesiology*, a staff surmounted by a cross, which is carried before an archbishop on solemn occasions. It is about five ft. long, is generally made of tin, and is hollow. Crosiers are generally gilt, and often richly ornamented. The C. differs from the pastoral staff (q.v.) with which it is often confounded—the latter having a head, in the form of a crook. The illustration is of Archbishop Warham's crosier (1520), from Canterbury Cathedral.



CROSS.

CROSS, n. *krös* [F. *croix*; OF. *crois*, a cross—from L. *crūcem*, a cross: It. *croce*: Icel. *kross*: Ger. *kreuz*, a cross for the punishment of malefactors (see **CROSS** 2, note)]: two lengths of any body placed across each other—thus (+), (×), or (†); a line drawn through another; the symbol of the Christian religion; the religion itself; the instrument on which the Saviour died; the sufferings and atonement of Christ; a hindrance; affliction; a piece of money so named as marked on one side with a cross: V. to draw a line, or place a body across another; to make the sign of the cross; to pass or move over; to pass from side to side; to cancel; to erase; to obstruct or hinder; to contravene; to thwart: **ADJ.** oblique; interchanged; transverse; obstructing; adverse: **PREP.** in *OE*, for across. **CROSSING**, imp.: N. a paved part for passing across a street. **CROSSED**, pp. *kröst*. **CROSSETTE**, n. *krös-sët'*, in *arch.*, the small projecting pieces in arch-stones which hang upon the adjacent stones. **CROSS'LY**, ad. *-lī*, adversely; in opposition. **CROSSNESS**, n. state of being cross. **CROSS'LET**, n. a little cross. **CROSS-ACTION**, in *law*, a case in which A having an action against B, B also brings an action against A on the same case. **CROSS-ARMED**, having arms across. **CROSS BAR**, n. a kind of lever. **CROSS-BARRED**, *-bârd*, secured by bars crossing each other. **CROSS-BEAM**, a large beam running from wall to wall. **CROSSBILL**, a bird so called from the form of the bill. **CROSSBOW**, n. a weapon formed by fastening a bow at the end of a stock: see **ARBALEST**: **ARCHER**: **BOW AND ARROW**. **CROSS-BREEDING**: see **BREEDING**. **CROSS-BUN**, a bun with the form of a cross on one side. **CROSS-COURSE**, in *mining*, a vein or lode which intersects at right angles the general direction of the veins. **CROSS CROSSLET**: see **CROSS** below. **CROSS-CUT**, in *mining*, a level driven at right angles with the view of intersecting a lode or vein. **CROSS-CUT SAW**, a saw that cuts across the grain of the wood, thus differing from a ripping saw. **CROSS-DAYS**, the three days preceding Ascension-day. **CROSS-EXAMINATION**, a strict examination of a witness by the opposing counsel. **CROSS-FROG**, an arrangement of crossing rails at a rectangular intersection of roads. Each track is notched for the passage of the flanges of the wheels traversing the other track; a crossing. **CROSS-GRAINED**, having the fibres cross or irregular. **CROSS-HEAD**, a beam or rod across the top part of anything. **CROSS-JACK**, the lower yard of the mizzen-mast. **CROSS-PURPOSE**, contradictory conduct or conversation arising from a misunderstanding; the proposing of a difficulty to be solved; a riddle. **CROSS-READING**, n. the combination of words produced by reading the lines of a newspaper, etc., directly across the page, instead of down each column. **CROSS-REFERENCE**, reference to another title or portion of the same work, specially in dictionaries and cyclopedias. **CROSS-ROAD**, an obscure road or path leading from one main road to another, or intersecting it. **CROSS SEA**, waves running high across others; a swell. **CROSS-STAFF**, a surveyor's instrument for measuring offsets. **CROSS-STONE**, harmotome or pyramidal zeolite. **CROSS-TIE**, a railway sleeper; in *arch.*, a connecting band in a building. **CROSS-TINING**, n. a mode of harrowing cross

CROSS.

wise or transversely to the ridges. **CROSS-TREES**, in *ships*, certain pieces of timber at the upper ends of the lower masts and topmasts. **CROSS-WIND**, an unfavorable or side wind. **CROSSWISE**, ad. -*wiz*, across; in the form of a cross. A **CROSSED CHECK**: see **CHECK**. To **CROSS THE BREED**, to breed animals from different varieties of the same species (see **BREEDING**). To **CROSS-QUESTION**, to examine again in another direction. To **PLAY CROSS AND PILE**, to play at tossing up money which had a cross on one side and a pile or pillar on the other. To **TAKE UP THE CROSS**, to submit to afflictions and self-denial for love to Christ, or in duty.

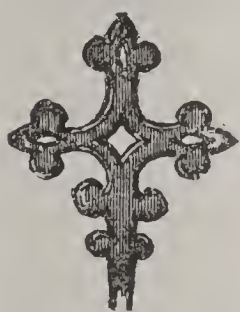
CROSS, n. *krös* [Gael. *crois*, misfortune, disappointment; *crossan*, an ill-tempered person (see **Cross** 1)]: a thwarting of one's wishes; peevishness: **ADJ.** out of humor; peevish; ill-tempered; perverse; troublesome. *Note*.—This entry is partly included under **Cross** 1, but has no necessary connection with the cross on which the Saviour died, other than as one of those complications between sound and sense so common in our and other languages. On that account, therefore, we expect to find a confusion in the etymologies proper to each, and no less so in the derived meanings.—**SYN.** of 'cross, n. 1 and 2': vexation; affliction; trial; opposition; disappointment; fretfulness; petulance; misfortune.

CROSS: common instrument of capital punishment among the ancients; esteemed so dishonorable that only slaves and malefactors of the lowest class were subjected to it by the Romans. It was customary to proclaim the name and offense of the person crucified, or to affix a tablet (*album*) to, the C., on which they were inscribed. Malefactors were sometimes fastened on a simple upright stake, and so left to die, or they were impaled upon it, and to this upright stake the Latin name *cruix* was originally and more strictly applicable; but very generally a cross-piece (*patibulum*) was added to the stake, to which the arms of the criminal were tied, or to which his hands were nailed. When the cross-piece was fastened at right angles below the summit of the upright stake, the C. was called *cruix immissa*; when the cross-piece was fastened at right angles across the top of the upright stake, the C. was *cruix commissa*; and when it was formed of two beams crossing one another obliquely, it was *cruix decussata*. The C. was erected outside the gates of towns, but in places of frequent resort. The person crucified often lived for days upon the cross. The death of Christ by crucifixion led Christians to regard the C. with peculiar feelings of reverence, and to make use of the sign of the C. as a holy and distinguishing sign. The custom of *crossing*, in honor and commemoration of Christ, can be traced back to the 3d c. The emperor Constantine, after obtaining the victory over Maxentius, through the influence—as he believed—of the sign of the C., caused crosses to be set up in public places and upon public buildings; and the veneration of the C. increased, particularly after the *Invention of the C.*, or finding of the alleged true C. of Christ in Jerusalem by the empress Helena: see **CROSS**, **INVENTION OF**. The desire for relics was gratified, and numberless

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portions of the true C. were given away, without its substance being diminished. Iconoclasts and others contended in vain against the prevalent worship of the C.; and the *crucifix* (q.v.), a C. with an image of the Savior affixed to it, was honored more than any other image. The sign of the C. is made not only by Rom. Catholics, but by the members of the Eastern churches also; there are, however, distinctive differences in the manner in which it is made. It is admitted by the Lutherans as a commemorative sign of the atoning death of Christ, but by many Protestants is rejected as a human invention in worship, and as tending to superstition. It was very generally during the middle ages, and still is among the less enlightened peasantry in some Rom. Cath. countries, a sort of charm, believed to afford some security, like an amulet, against all evil, particularly against evil spirits and witchcraft.

It appears that the sign of the C. was in use as an emblem, having certain religious and mystic meanings attached to it, long before the Christian era; and the Spanish conquerors were astonished to find it an object of religious veneration among the natives of Central and S. America. Be this as it may, it was early adopted as a symbol by Christians, with express reference to the central fact of their religion, and it



has been extensively used as an ornament in Christian architecture, and in the ground-plan of churches (q.v.). The C. of the Resurrection is distinguished from the C. of the Passion by ecclesiastical writers. It is a lance, headed by a C. instead of a pike, and carrying a banner upon which a C. is depicted. It is the C. held by the paschal lamb, and carried at the head of religious processions. The large C. always placed

over the entrance of the main chancel of a church, was called the *rood*, or *holy rood*. A representation is here given of the top of one of these large ornamental crosses.

The forms given to crosses in art are endless; but the two leading types are the Latin C., or *crux immissa*, supposed to be that on which Christ suffered, and the Greek C., both of which are subject to many fantastic variations. The Greek C. forms the well-known C. of St. George, which, adopted from the legends of that hero, was the national ensign or



Greek Cross.

Latin Cross. St. Andrew's Cross.

the English previous to the union with Scotland. The C. of St. Andrew differed entirely in form from the Latin or Greek cross. This C., or *crux decussata*, consisted of two shafts of equal length crossed diagonally at the middle, as in the annexed cut. According to the legend, this was the

form of C. on which St. Andrew, the national saint of Scotland, suffered martyrdom. As the Scottish ensign, it is now blended with the C. of St. George in the Union Jack.

Many very beautiful crosses are seen in England, upon the points of gables of churches, on grave-stones, and in other situations; also in heraldry. Among these, the C. most commonly seen is called the *C. crosslet*. In this figure, as seen in the annexed cut, the extremities are intersected, so as to make several small crosses. When employed in ecclesiastical architecture, the figure is usually carved in a florid or highly decorative style. When the C. crosslet is pointed at the lower extremity instead of being crossed, it is in heraldry said to be fitched, or *fitchée*. It is of frequent use in blazon.



Sanctuary, Boundary, or Monumental Crosses, consist of an upright flat pillar or obelisk, covered with sculptured devices, and set in a socket level with the ground. Occasionally, they appear to have marked boundaries, but more frequently were monuments over the graves of heroes, kings, bishops, etc. In some instances, they probably marked the verge of a sanctuary. A characteristic type of cross is the *Celtic Cross*, most frequently found in Ireland and in the n. and w. of Scotland. Such crosses vary much, from a cross



St. Martin's Cross, Iona.

Incised on a flat slab to an elaborate cruciform monument. The majority of the latter seem to belong to the period between the 12th and 15th c. One of the best known is that at Iona called St. Martin's Cross, in the grounds of the cathe-

CROSS.

Oral. It is a column of compact mica schist, 14 ft. high, 18 inches broad, and 6 inches thick, and is fixed in a pedestal formed out of a massive block of red granite, about 3 ft. high. In connection with certain ancient religious houses in Ireland, there were very fine Celtic crosses. Some crosses of this type show Scandinavian workmanship; hence they are often called *Runic* crosses.

Memorial Crosses were erected in memory of some beloved object, or in commemoration of some event of local importance. In England, there are some superb crosses of this kind; they are popularly called *Norman Crosses*. This species of C. resembled a Gothic turret set on the ground, or on a base of a few steps, and was decorated with niches for figures and pinnacles. The best known examples are those



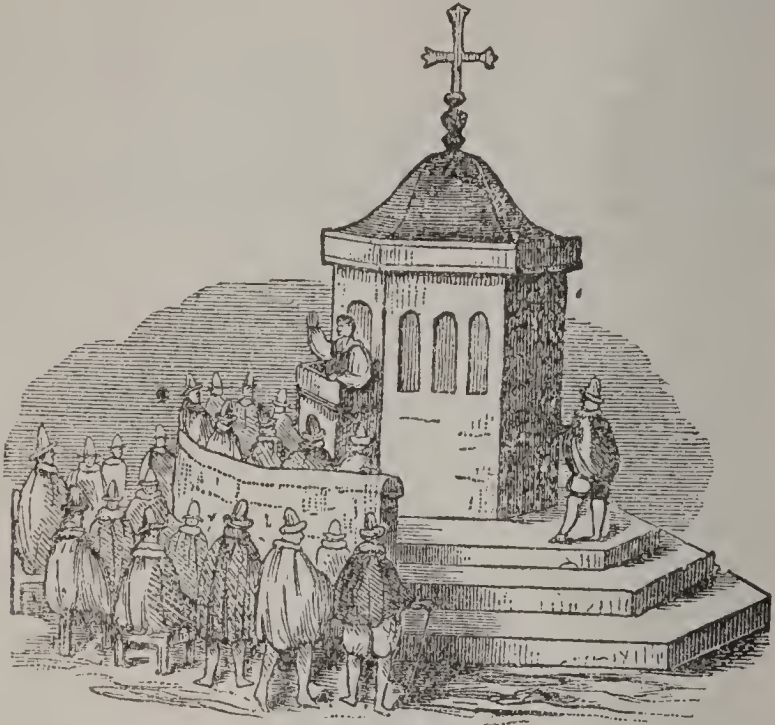
Waltham Cross, restored.

erected by Edward I. (1290) in memory of his queen, Eleanor; being placed on the spots where the body rested in its funeral progress to Westminster. The crosses at Waltham, Cheapside, and Charing were of the number. Those at Cheapside and at Charing are destroyed, but the C. at Waltham, though now much decayed, remains as a testimonial of the affection and piety of the greatest of the Plantagenets. We present a sketch of this beautiful Norman cross, as restored.

Town or Market Crosses were erected as stands to preach from, or in commemoration of events regarding which it was deemed proper to evoke pious feelings. As these structures were incorporated with or surmounted by a crucifix, the term *cross* was so indelibly associated with

CROSS.

them that it survived the religious character of the fabrics. 'The general intent of market-crosses was to excite public homage to the religion of Christ crucified, and to inspire men with a sense of morality and piety amidst the ordinary transactions of life.'—Milner's *History of Winchester*. The earliest examples of this kind consisted,



St. Paul's Cross.

probably, of tall crucifixes of wood, such as are still seen by the waysides in some continental countries.. Afterward, stone shafts would be substituted; and according to the increase of market revenues, or progress of taste, these town crosses assumed that imposing character which they latterly possessed. Of the larger ornamental crosses of this kind, there are some striking specimens in England; e.g. that at Cheddar in Somersetshire, and that at Malmesbury in Wiltshire; both are open vaulted structures, with a commodious space beneath, as a refuge for poor market-folks during rain, and surmounted with a kind of Gothic turret. At Chichester, Bristol, and Winchester, the market-crosses, while similar in form, are of a higher architectural quality. See Britton's *Architectural Antiquities*. Adjoining St. Paul's in London, stood Paul's C., a structure which we read of as early as 1259, in the reign of Henry III. It was essentially a town-preaching C., and is associated with some interesting occurrences in history. Before this C. the unfortunate Jane Shore was forced to do penance in the reign of Richard III., to whose malice she was made a victim. This event was followed by Dr. Shawe's infamous sermon, attempting to bastardize the children of Edward, and eulogizing Richard, who was present on the occasion. In front of this C. sat Cardinal Wolsey, to hear fulminations against Luther; and about ten years later, by order of Henry VIII., preachers here delivered sermons in favor of the Reformation. At this

CROSS.

C., Queen Elizabeth attended to hear a thanksgiving sermon for the defeat of the Spanish Armada. Here, sermons continued to be delivered until 1643, when, with other so-called relics of popery, the C. incurred the displeasure of the Puritans, and was demolished by order of parliament. Whatever was the original form of Paul's C., it was in later times a plain pulpit-like fabric of wood, covered with lead, and, as seen by the preceding cut, was provided with seats for an audience. This inoffensive and really useful preaching C., which might well have been spared, stood on the n. side of the church, a little e. of Cannon Alley.

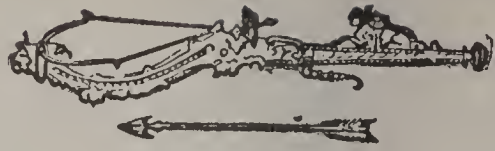
Scotland offers no specimens of memorial or Norman crosses, excepting, perhaps, the Scott Monument, at Edinburgh, essentially a Norman C. of a gigantic order: see SCOTT, Sir WALTER. As regards the market-crosses of Scotland, they never attained the elaborately ornate character of those of Chichester and Winchester. Yet the Scottish town-crosses had some distinguishing features. The more simple kind consisted of a shaft of stone, generally octangular in shape, and 12 or more ft. in height. At top was an ornamental capital, which bore a dial and vane, or the figure of a unicorn. The shaft sprang from the top of a graduated flight of circular or octangular steps. A specimen is seen in the market-place of Melrose. Another specimen, renovated and set in the quadrangle of the Chambers Institution, Peebles, is shown in the annexed cut. The grander market C. consisted of a tall stone shaft, such as just described, but instead of steps, it sprang from the centre of an imposing sub-structure. This structure was circular, hexagonal, or octagonal, and from 10 to 16 ft. high. The top formed a platform, surrounded with an ornamented stone parapet, and reached by a stair inside. The sides of the building were decorated with pilasters, and bore various heraldic and other devices. Such were the crosses of Edinburgh, and such is the renovated C. of Aberdeen, the sides of which, however, are open. Losing their religious character, the Scottish market-crosses were employed for royal and civic proclamations, and as places where certain judicial writs were executed. The general removal of these ancient and interesting structures has been often matter of lamentation. The oldest C. of Edinburgh, the scene of a number of incidents in Scottish history, stood in the centre of the High street, nearly opposite the entrance to the Parliament Square. It was removed 1617, to make way for a royal pageant, the procession of James VI., on his first visit to Edinburgh after his removal to England. A new market-



Peebles Cross.



Monumental Cross, Eyam, Derbyshire.



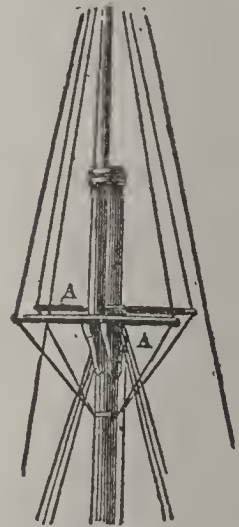
Crossbow.



Crossbow with Windlass.



Cross Crosslet.



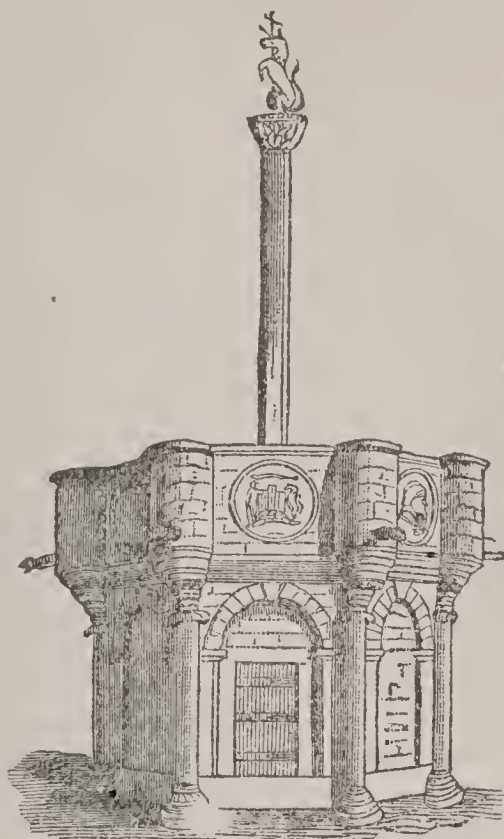
A, A, Cross-trees.



Crotalidæ.

CROSS.

C. was then erected a short way further down the street, on the s. side. This C. consisted of an octangular sub-structure 16 ft. across, with a handsome stone shaft of about 20 ft. in height; its removal 1756, by the civic au-



Edinburgh Market-cross.

thorities, is indignantly referred to by Scott in *Marmion*. In 1869, the shaft, or cross proper, was re-erected within the railings of St. Giles's church. And in 1885, the whole was restored by Mr. Gladstone, according to the model of that removed 1756; and the ancient shaft re-erected on the new sub-structure, close to its ancient site at the entrance of Parliament Square.

CROSS, in Heraldry: symbol of the Christian faith frequently introduced into the escutcheons of ancient and noble families everywhere in Europe. This seems natural on the theory that the art of blazon originated in connection with the crusades. The cross is one of the honorable ordinaries, and, indeed, from its sacred character, is esteemed by heralds as the most honorable charge. Its form varies so much that Ménestrier counts 42 crosses; La Colombière, 72; and Guillim, 39. Most of the architectural crosses occur in heraldry, with many others.

CROSS, INVENTION (FINDING) OF THE: festival in the Rom. Cath. Church, commemorating the finding of the alleged true C. of the Savior; celebrated May 3. The empress Helena, mother of Constantine the Great, out of a desire of visiting the holy places, undertook a journey to Palestine 326, though she was then nearly 80 years of age; and being animated with a great desire of finding the C. on which our Savior suffered, she was so well directed, it is said, in the search which she instituted, that the C. was

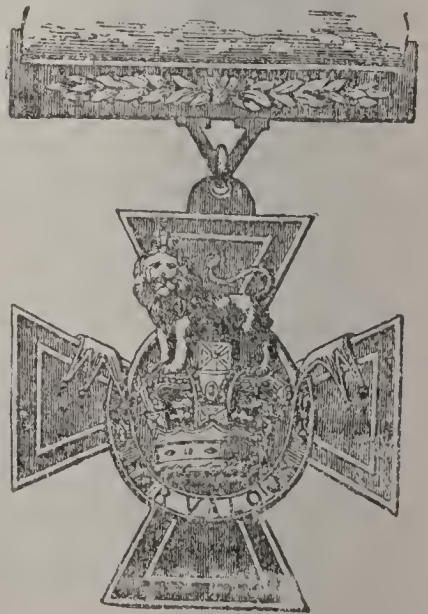
CROSS.

found, and with it the crosses of the two thieves; but the title being found separate from the C., a miracle readily determined which was the proper object of reverence. An order of friars, founded in honor of the Invention of the Cross, and carrying in their hand a staff, on the top of which was a C., received the name of *Croisiers* (Fr. *croix*, cross), corrupted into *Crouched* or *Crutched* Friars. They came to England in the 13th c., and had monasteries in London, Oxford, and Ryegate.—The festival of the *Elevation of the Cross* (Sep. 14) commemorates its re-erection in Jerusalem by the emperor Heraclius 628, after it had been carried away by the Persians.

CROSS, ORDER OF THE: originally a spiritual order of knighthood, which sprang up in Palestine in the time of the Crusades, and was then called the *Bethlehemite Order*. After the commencement of the 13th c., the knights of this order adopted the monastic life, settling chiefly in Austria, Bohemia, Moravia, Poland, and Silesia. Pope Gregory IX. confirmed the order 1228. Its principal seat is now in Bohemia, and its members generally hold ecclesiastical preferments or professorships in the univ. of Prague. They are distinguished by a C. of red satin, with a six-pointed star under it, and are sometimes called *Stelliferi*.

CROSS, SOUTHERN: most conspicuous constellation in the s. hemisphere; near the Antarctic Circle, therefore never visible in northern latitudes. It consists of four bright stars, to which the fancy, aided by Christian associations, readily gives the cruciform shape. The two brilliant stars which mark the summit and foot of the C. have nearly the same right ascension. The constellation, therefore, is almost perpendicular when passing the meridian, and these two stars act as pointers to the Antarctic pole.

CROSS, VICTORIA: decoration instituted on the termination of the Crimean campaign in 1856. It may be granted to a soldier of any rank, and for a single act of valor. The C. of the Legion of Honor, as was felt during the Crimean campaign, served a purpose in the French army which was served by none of the British decorations, and it was in imitation of it that the Victoria C. was founded, with the inscription 'For Valour,' and which can be given to none but those who have performed, in presence of the enemy, some signal act of valor or devotion to their country. The general distribution of the crosses earned in the Crimean war (62 in number) was in 1867; and the distinction has since been conferred from time to time. The V. C. is in the form of a Maltese cross, of bronze. In the centre is the royal crown surmounted by the lion, and below, on a scroll, the words, 'For



Victoria Cross.

CROSS-BILL—CROSSBILL.

Valour.' The ribbon is blue for the navy, and red for the army. On the clasp are two branches of laurel, and from it the cross hangs, supported by the initial 'V.' The decoration is accompanied by a pension of £10 a year.

CROSS-BILL IN CHANCERY: suit brought by the defendant against the plaintiff in the original suit, for the purpose of setting up some claim or defense which could not be maintained in the original suit.

CROSSBILL (*Loxia*): genus of birds of the family *Fringillidae*, much resembling bullfinches, linnets, etc., except in the bill, which is altogether singular; the two mandibles—which are rather long, thick at the base, and much curved—crossing each other at the points, when the bill is closed. In different individuals, even of the same species, the upper and lower mandibles are found variously directed to the right and left. This conformation was rashly characterized by Buffon as 'an error and defect in nature, and a useless deformity;' whereas, it is an admirable adaptation to the wants and habits of the birds, and other peculiarities of their structure beautifully correspond with it—the bill being articulated to the head in such a manner that the mandibles are capable not merely of ver-



Crossbill (*Loxia curvirostra*).

tical but of lateral motion, and muscles of extraordinary power, in comparison with the size of the bird, are provided for moving them. The result is, that the crossbills readily obtain their principal food, seeds of firs and pines, by tearing up the cones. They bring the points of the mandibles together—which they can do so as to pick up a very small seed—and insert the points into the cone, when a powerful lateral movement widens the opening quite sufficiently, and the tongue, which terminates in a singular movable scoop, formed of a bone articulated to the *os hyoides*, or ordinary bone of the tongue, is inserted to detach the seed. The power of the bill is such that it can be employed in its lateral movements to tear wood to pieces, and crossbills in confinement seem to take a mischievous pleasure in so employing it, and by this means, and pulling at wires, soon destroy any ordinary cage. An apple is cut to pieces almost in an instant. in order that its seeds may

CROSS BUN—CROSSE.

be reached; and flocks of these birds sometimes do great mischief in orchards. Only three species are known, of which one is called the common C. (*L. curvirostra*). In Britain, it sometimes occurs in considerable numbers, but in most years is scarcely seen. It is a native of Europe, Asia, and N. America, dwelling chiefly in pine forests, and extending as far n. as they do, not dreading the cold-climates.

CROSS BUN: small cake specially prepared for Good Friday, and in many towns of England cried about the streets on the morning of that day as 'Hot-cross buns.' [*Bun*, means simply a round cake—properly, a lump, being from the same root as *bunion*, Ital. *bugno*, a bump or knob; allied is the Gael. *bonnach*, a cake, a *bannock*.] Good-Friday buns were appropriately marked with the cross; hence the name. The origin of the practice is obscure; probably it is a relic of some heathen observance, to which the ancient church gave a Christian significance. At Chelsea, there were formerly two celebrated bun-houses, besieged on Good Friday from morning until night by hundreds of eager purchasers, but they have long since disappeared.

CROSSE, kros, ANDREW: 1784. June 17—1855, July 6; b. Fyne Court, in the Quantock Hills, Somersetshire: English experimenter on electricity. He was educated at Bristol and Brasenose College, Oxford, and in 1805-6, settled on his paternal estate, where applied himself to the study of electricity. Happening on one occasion to examine a cavern near his residence, he found reason to conclude that the crystallizations on the walls and roof were partially, at least, the effect of the operation of this subtle agency. In 1807, he commenced experiments with the view of forming artificial crystals by electricity. He took home some of the water which dropped from the roof of the cave, and exposed it to the action of a voltaic battery for ten days, when he found crystals of carbonate of lime forming on the negative platinum wire. C.'s endeavors to form crystals of various sorts were very successful. After 30 years of quiet research, during which period he remained totally unknown to the learned world, he obtained no less than 24 minerals, crystals of quartz, arragonite, carbonates of lime, lead, and copper, besides more than 20 other artificial minerals. Explaining his discoveries at the meeting held by the British Assoc. for the Advancement of Science, Bristol, 1836, he received high praise. On this occasion, he expressed his belief that every kind of mineral would yet be formed by the ingenuity of man. But his most startling discovery occurred a few months after. While experimenting with some highly caustic solutions, out of contact with atmospheric air, there appeared, as if gradually growing from specks between the poles of the voltaic circuit, certain animals of the genus *acarus*. C. never affirmed that he had developed animal life out of inorganic elements,—this being neither proved by, nor necessary to account for, his experiment,—but simply that under certain physical conditions he could

CROSS-EXAMINATION—CROSSOPODIA.

make acari appear, and not otherwise. The 'discovery' made a great noise at the time. The possibility of the fact was, of course, denied by all those persons who 'take the high *priori* road,' and have made up their minds as to what facts alone are possible; but Faraday declared that he had seen, during the same year, similar appearances in his own electrical experiments. C. was accused of 'impiety,' and of being 'a reviler of our holy religion,' and though a very pious man, was compelled to defend himself against such pitiable charges, and, in spite of his defense, even lost various honors to which he was entitled. C. also invented a method of purifying sea-water by electricity, improved wines, spirits, and cider by the same process, and showed that it might be usefully applied to vegetation. An excellent memoir of him was published by his widow (1857).

CROSS-EXAMINATION: examination of a witness by counsel for the party opposing the one that called him. It has been held in some of the states that when a witness has been sworn the opposing side may cross-examine him though he has not been examined in chief or direct; while in others and in the federal courts the C.-E. is confined to matters brought out in the direct examination. Inquiry in regard to collateral facts may be made with the sanction of the presiding judge, who exercises a discretion as to the course of the examination, but such inquiry is not deemed permissible when made for the simple purpose of contradicting the witness by other evidence. A C.-E. as to matters not otherwise admissible in evidence gives to the party producing the witness the right to re-examine him in reference to those matters. Leading questions, excluded on direct examination, are allowed on C.-E. But it is a general rule that if a strictly collateral question be answered, the opposing counsel will not be permitted to call witnesses to disprove the truth of the answer.

CROSS KEYS, BATTLE OF: 1862, June 8, in Rockingham co., Va., between the Union Gen. Frémont and the Confederate Gen. Ewell. On the withdrawal of the Confederate army from n. Va. to the peninsula, a force of 12,000 men, subsequently increased to 15,000, was left on the Shenandoah and Rappahannock under Gens. Jackson and Ewell. After Jackson's defeat near Winchester, he drove Gen. Banks to the Potomac, leaving Ewell at C. K. to watch Frémont. The latter, with 18,000 men, attacked Ewell, who had 8,000 men. The Confederates held their ground through the day, and retired at night to unite with Jackson; the whole force crossed the Shenandoah the next day and repulsed the advance of the Union Gen. Shields at Port Republic, when the Union pursuit ceased. Confederate loss 133 killed and 929 wounded; Union loss about the same.

CROSSOPODIA, *krōs-o-pō'dī-a*: genus of annelids determined from markings on the surface of Silurian slates. Nothing exhibiting structure has been observed—the sur-

CROSSOPTERYGIAN—CROTALARIA.

face of the slate is not even darkened by the organisms, which the markings show to have been nereid-like worms of some six inches in length. The extraordinary length, 'probably many yards,' ascribed to this animal, has been shown by Alexander Bryson to be founded on a confusion of the body with the track formed by the passage of the creature through a crisp rather than a slimy mud, the track having been filled up with dry blown dust, which gives it an appearance and structure different from those of the surrounding matter.

CROSSOPTERYGIAN, a. *krōs-ōp'tēr-īj'ŷ-ăn* [Gr. *krossos*, a fringe; *pterugion*, a fin]: fringe-finned, applied to a family of ganoid fishes.

CROS'WELL, EDWIN: 1797, May 29—1871, June 13; b. Catskill, N. J.: journalist. He received his education in journalism on the *Catskill Recorder*, founded by his father 1790; succeeded Judge Cantine as editor of the *Albany Argus* 1823, changed it to a daily newspaper, made it a leading democratic organ, and conducted it till 1854; was state printer 1824-40 and 1840-47; retired from politics and journalism 1854, and became New York manager of an ocean steamship company.

CROS'WELL, HARRY, D.D.: 1778, June 16—1858, Mar. 13; b. w. Hartford: Prot. Episc. minister. He was editor for some time of the *Catskill Recorder*; founded the *Balance*, a Federalist organ, at Hudson, N. Y., 1802; removed to Albany and continued his political journalism, 1809; and being unable to pay the awards in numerous suits against him for libel, quitted journalism, and entered the ministry of the Prot. Epis. Church 1814. He became rector of Trinity Church, New Haven, 1815, Jan. 1; received his degree from Trinity College 1831; and published *Young Churchman's Guide*, *Manual of Family Prayers*, *Guide to the Holy Sacrament*, and other devotional works.

CROTALARIA, *krō-ta-lā'rĭ-ā* [Gr. *krotalon*, a rattle]: genus of plants of the nat. ord. *Leguminosæ*, sub-ord. *Papilionaceæ*, deriving its name from the inflated pods in which the seeds rattle when ripe. The species are numerous; annual, perennial, and shrubby plants, natives of the warm parts of the world. Many of them have long, straight, slender stems and branches, and some of these yield valuable fibre, particularly *C. juncea*, the SUNN (q.v.), or Sunn Hemp of India, an annual species, the fibre of which is now an important article of commerce. JUBBULPORE HEMP, also an important fibre, and regarded as stronger than Sunn, is the produce of *C. tenuifolia*, a perennial species about nine ft. high, native of the s. of India, which, when growing in abundant space, throws out many branches; but when sown thick, grows with little branching. *C. Burhia*, which naturally grows in very arid places, is also cultivated in Sinde for its fibre; and that of *C. retusa* is employed in the Madras presidency. *C. juncea* is often sown in India, to be used in a young state for feeding cattle.

CROTALIDÆ—CROTON.

CROTALIDÆ, *krō-tāl'ī-dē*: family of venomous serpents, agreeing with *Viperidæ* in general form and appearance; in their large head, which is broad behind and has a short muzzle; in their short tail; and in having long fangs in the front of the upper jaw, which is destitute of other teeth; but differing from them in having a large pit—the use of which is not known—on each side of the face between the nostril and the eye; and in having the tail terminated by a sort of horny spine or by a rattle. Many of the most dangerous serpents of the warm parts of Asia and America belong to this family, which receives its name from the rattlesnakes (q.v.) [Gr. *crotalus*, a rattle] of America, and contains also the genera *Trigonocephalus*, *Craspedocephalus*, *Lachesis*, etc.

CROTCH, n. *krōch* [F. *croc*, a hook; *crochet*, a hook, a little hook]: a hook or fork. **CROTCHED**, a. *krōcht*, hooked. **CROTCH ET**, n. *-ēt*, a fixedness of the mind on some particular object or pursuit; a whim or fancy; a musical note (see **MUSIC**); a bracket. **CROTCHETED**, a. *krōch'ē-tēd*, marked with crotchets. **CROTCH'ETY**, a. *-tī*, having a tendency to fix the mind too exclusively on one object or pursuit for a time, to be in its turn laid aside for another; whimsical.

CROTCH, *krōch*, **WILLIAM**, MUS.DOC.: 1775-1840, Dec. 29; b. Norwich, England: musical composer. His musical genius was as precocious as that of the great Mozart. When little more than three years old, it is said that he could play *God save the King* almost throughout with chords, and the accuracy of his ear was such that he could detect in a moment what note was struck, and in what key the music was composed. At the age of 22, C.'s abilities were so much appreciated that he was appointed prof. of music in Oxford Univ., with the degree Doctor of Music. In 1822, he obtained the principalship of the Royal Acad. of Music. C. composed a large number of pieces for the organ and piano, as well as many vocal pieces. He was author of *Elements of Musical Composition and Thoroughbass*, and *Styles of Music of all Ages*, 3 vols.

CROTON, n. *krō'tōn* [Gr. *krōtōn*, a tick, referring to the resemblance of the seeds]: a genus of handsome plants of numerous species. **CROTON'IC**, a. *-ik*, pertaining to; denoting an acid obtained from croton-oil. **CROTON'YLENE**, n. *-ī-lēn*, a hydrocarbon of the acetylene series, related to crotonic acid.

CRO'TON: genus of plants of the nat. ord. *Euphorbiaceæ*, having male and female flowers generally on the same plant; the male flowers with five petals; the female flowers with three styles, which are either forked or divided into many branches; the capsules 3-celled, with one seed in each cell. The species are numerous, mostly tropical or sub tropical trees or shrubs, a few herbaceous. Some possess in high degree the acrid properties characteristic of the order to which they belong. Among these, the most important is the **PURGING C.** (*C. Tiglium*), a small tree, a native of India and easterly tropical Asia.

CROTON AQUEDUCT—CROTOPHAGA.

The leaves are extremely acrid; the wood in a fresh state is a drastic, and in a dried state a more mild purgative; and the seeds (*C. Seeds*, or *Tilly Seeds*) are an extremely powerful drastic purgative, formerly much employed in Europe, but latterly disused on account of violence and uncertainty of action, though still valuable as yielding *C. OIL* (q.v.). They are oval, or oval-oblong, about the size of field-beans. So great is their acidity, that dangerous effects have ensued from working for some hours with packages of them. The oil is obtained mostly by expression, and partly by treating the cake with alcohol.—The wood and seeds of *C. Pavanæ* are employed in some parts of the East in the same way as those of *C. Tiglium*; and the wood is supposed to be the *Lignum Pavanæ* or *Panavæ* of commerce. Other species have similar properties.—Very different are the properties of the species which yield Cascarilla (q.v.) and Copalche (q.v.) barks, to which a great resemblance exists in the barks of a number of species, natives chiefly of America.—Other species are still more aromatic, and some delightfully fragrant, containing in great abundance a thickish balsamic sap. The sap of *C. gratissimus* is much employed as a perfume and cosmetic at the Cape of Good Hope; that of *C. organifolium* is used in the W. Indies as a substitute for Balsam of Copaiva; that of *C. balsamiferum*, also W. Indian, furnishes *Eau de Mantes* by distillation; and the balsamic sap of some S. American species is dried and used as incense.

CROTON AQUEDUCT: see AQUEDUCT.

CROTON OIL: oil expressed from the seeds of *Croton tiglium*, varying in color from a pale yellow to a dark reddish-brown or deep sherry color. It is not miscible with water, but dissolves in alcohol and in ether. It has an acrid taste, and an unpleasant characteristic odor, and is a powerful purgative, one drop of the pure oil being a sufficient dose. When rubbed upon the skin, it produces rubefaction and pustular eruption, and thereby tends to relieve some affections of the internal organs. It is used either by itself in the unmixed state, or diluted with olive oil, soap liniment, alcohol, etc. It is not to be used except with extreme caution.

CROTONA, *kro tō'na*, or **CROTON**: city of Italy, founded by a colony of Achæans, B.C. 710. During a war between the inhabitants and the people of Sybaris the latter were defeated in a great battle and their city destroyed, B.C. 510. C. was taken by the elder Dionysius B.C. 389, by Agathocles 299, and afterward by Pyrrhus; and was seized by the Romans 277, who planted a colony there 194. It was the seat of the school of Pythagoras, and its site is now occupied by Cothrone.

CROTOPHAGA, *krō-tōf'a-gá* [Gr. tick-eater]: genus of birds of the order *Scansores*, or climbers, allied to trogons and toucans, and of which some of the species are known by the names **ANI** and **KEEL-BIRD**, the former from their cry, the latter from the high, blade-like ridge which sur-

CROUCH—CROUP.

mounts the short, much compressed, arched bill. The tail is fan-shaped. *C. Ani*, often called the SAVANNA BLACKBIRD, is common in the W. Indies and warm parts of America, inhabiting savannas and open pastures, particularly on insects, partly also on berries. It uses the sharp ridge of the bill in opening earth, dung, etc., in search of ticularly those occupied by cattle or horses, and feeding



Savanna Blackbird (*Crotophaga Ani*).

insect prey. It often perches on the backs of horses or cattle, to feed on ticks, and may be seen clinging to a cow's tail; the important service which it renders being apparently well appreciated.

CROUCH, v. *krowch* [Icel. *krokinn*, crooked, bowed down: W. *crwcau*, to bow, to curve]: to crook the body together; to stop low; to bend; to act meanly; to fawn or cringe. **CROUCH'ING**, imp. **CROUCHED**, pp. *krowcht*. **CROUCHED-FRIARS**, same as **CRUTCHED-FRIARS**: see under **CRUTCH**.

CROUP, n. *króp* [F. *croupe*, hind-quarters: Icel. *kroppr*, a bump on the body (see **CRUPPER**): the hinder part or buttocks of a horse; the place behind the saddle.

CROUP, n. *króp* [AS. *hrópan*, to call aloud: Goth. *hropjan*; Icel. *hropa*; Scot. *roup*, to call out, to cry: Gael. *crup*, to contract, to shrink]: severe and often fatal disease of infants, known from a remote period, but first scientifically described by Dr. Francis Home 1765, as a suffocative affection of the breathing, depending on the formation of a false membrane or fibrinous deposit on the mucous membrane of the windpipe or Larynx (q.v.). The inflammatory disease described by Home has been frequently confounded with a purely spasmodic affection of the larynx, the asthma of Millar, or *laryngismus stridulus* of Dr. Mason Good; and also with Diphtheria (q.v.) in which a false membrane is formed on the pharynx and palate, as

CROUPADE—CROUT.

well as in the larynx. C., in the more restricted sense, begins with symptoms resembling Catarrh (q.v.), but differing in the greater degree of feverishness and hoarseness. In a short time, the respiration becomes difficult and noisy; a very peculiar hissing sound is heard accompanying the drawing of each breath; the cough is harsh and brassy; the countenance is injected, the expression very feverish and anxious, the voice entirely lost, or much altered. This state is soon followed by one of suffocation, unless the little patient is relieved by expectoration, which, however, frequently takes place in the midst of vomiting or coughing, a quantity of membranous shreds being brought up from the windpipe with glairy mucus, and sometimes streaks of blood. In the worst cases, the spasms of ineffectual coughing, and the constantly increasing obstruction to the breathing, are most painful to witness; and a period of tossing, extreme suffering, and anxiety is succeeded either by gradual insensibility, or by convulsions, soon followed by death. True C. is rarely seen after the age of puberty, and is rather uncommon before the termination of the first year of life. It may occur, however, at any age, and has essentially the same characters as are above described. It is supposed to be due in some measure to Endemic (q.v.) and partly also to Epidemic (q.v.) causes. It is most common in cold and moist climates and seasons, and in low-lying, but exposed situations. The variations in its prevalence, however, are not fully explained. The treatment of C. requires to be very active and decided, and yet free from rashness. In cases of highly inflammatory type, and in robust children, it may be proper to take blood from the arm, or to place one or more leeches (according to the age of the child) over the top of the breast-bone. An emetic should also be given as soon as possible, composed of a full dose of tartar-emetic or of ipecacuanha, or both together. Some prefer sulphate of copper given in repeated doses; in the United States, a preference is given to alum and honey mixed into a paste, and given in teaspoonful doses. The emetic may be repeated, if necessary, every two or three hours, and the child should at intervals be placed in the warm bath. Medical advice should be procured without a moment's delay, for the disease is one of extreme danger, and almost all the effective remedies require experienced hands for their safe administration. In extreme cases, Tracheotomy (q.v.) has been resorted to with success.

CROUPADE, n. *kró-pād'* [F. *croupe*, the croup]: higher leaps than those of curvets, that keep the fore and hind quarters of the horse in an equal height, so that he trusses his legs under his belly without jerking.

CROUPIER, n. *kró-pēr'* [F. an assistant at a gaming-table — from *croupe*, hind-quarters, a crupper: comp. Gael. *crub*, to sit, to squat]: in *Scot.*, one who sits at the foot of the table at a public dinner and assists the chairman.

CROUT, n. *krowt* [Ger. *kraut*, a plant, a vegetable: Dan. *kruid*, a herb, cabbage]: sliced or chopped cabbage placed

CROW.

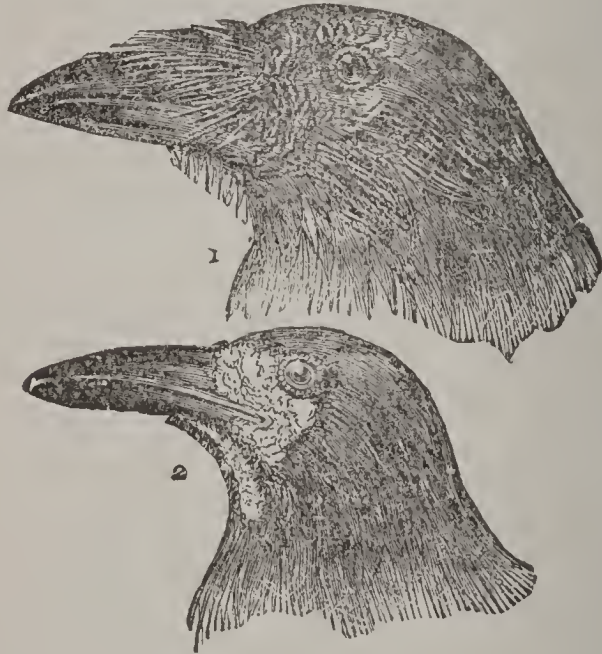
in layers alternately with salt and spices, closely packed and allowed to ferment, usually called *sour crout*; a universal article of domestic use in Germany, and called *sauer kraut*.

CROW, n. *krō* [Ger. *krähen*, to crow: L. *crocīrē*; F. *croasser*; Gr. *krozein*, to croak: Icel. *kraki*, a crow; *krakr*, a raven: an imitation of the cry of different birds]: a large passerine bird of a very deep blue-black color; the cry of a cock; an iron lever: V. to sing or cry as a cock, being a mark of joy or defiance; to boast in triumph. CROWING, imp. CREW, pt. *krō*, did crow. CROWED, pp. *krēd*. CROW-BAR, a strong bar of iron used as a lever. CROW'S-BILL, in *surg.*, a kind of forceps for extracting bullets, etc., from wounds. CROW-COAL, among *miners*, earthy coal containing very little bitumen. CROW-FOOT or CROW'S FOOT, n. *krō foot*, a wild flowering plant, the seed-vessels of which resemble the foot of a crow; the *Ranunculus* of various species, ord. *Ranunculicēæ* (see RANUNCULUS): in a *ship*, a number of small cords rove through a long block, used to suspend an awning by, etc.: in *mil.*, a machine of iron having four points or spikes abt. 4 in. long welded together so that when laid on the ground one point is always uppermost; see CALTHROP. CROW'S-FEET, wrinkles under the eyes, being the effects of age. CROW'S-NEST, a look-out or watch-tower placed on the main-topmast cross-trees, generally of a whaling-vessel. CROW-QUILL, a pen made from the quill of a crow, used for delicate writing and sketching. TO PLUCK OR PULL A CROW, to be contentious about a trifle.

CROW (*Corvus*): genus of birds, type of the family *Corvidæ* (q.v.). The largest species of this genus is the Raven (q.v.). The Rook (q.v.) also belongs to it. Besides these and the Jackdaw (q.v.), there are found in Britain, the COMMON or CARRION C. (*C. corone*), and the ROYSTON C. or HOODED C. (*C. cornix*), differing chiefly in color, the Carrion C. being black, the Hooded C. gray, with black head, throat, wings, and tail. The Hooded C. is also rather larger than the Carrion C., which, in size, nearly agrees with the rook, but which may readily be distinguished from that species in its having the base of the bill and the upper part of the throat not naked and rough, but closely feathered. The name Hooded C. is derived from the appearance of the black head, contrasted with the gray body, but in some parts of Scotland is, without any show of reason, popularly transferred to the Carrion C., under the form *Hoody*. Both these species have habits much more resembling those of the raven than of the rook; they seldom or never associate in flocks, and not only prefer carrion to worms, insects, or vegetable food, but watch and attack very weak animals, such as young lambs. On this account, a premium is in many places given for their destruction, and gamekeepers relentlessly pursue them on account of their robbing nests, from which they take either the eggs or the helpless young. Their own nests are built in trees, or if these are not to be found, among high rocks. They both occasionally frequent the sea-coast, feeding on shell-fish, etc. Both are widely distributed over Europe and the

CROWBERRY.

northern parts of Asia.—The C. of N. America (*C. Americanus*) is very similar to the Carrion C., but rather smaller, and, after the breeding season is over, congregates into great flocks; it is also partially migratory, great numbers from the more northerly parts moving to the south on the approach of winter. Its habits are otherwise intermediate between those of the Carrion C. and the rook.—The Fish C. (*C. ossifragus*) frequents the coasts and southern rivers of the United States, feeding chiefly on fish, which it catches with great dexterity. It sometimes also assails gulls, and compels them to disgorge their prey.—The JAB-BERING C. (*C. Jamaicensis*) of the Blue Mountains of Jamaica is remarkable for the resemblance of its voice to human speech, which some of the other species of this genus, as the raven, it is well known, can be taught to imitate. Sir J. E. Tennent gives an interesting account of the small glossy C. of Ceylon (*C. splendens*), which frequents the towns, feeding on offal, and boldly entering rooms through open windows, to snatch some morsel from the dinner-table. Habits of pilfering



are more or less prevalent among the different species of crow. The accompanying cut of the heads of the raven (fig. 1) and the rook (fig. 2) illustrates well the prevalent characters of the bill in this genus, showing also in the raven the bristles which, as in most of the species, surround its base, but which are wanting in the rook; and contrasting the greater strength of neck, head, and bill which belongs to the more carnivorous as compared with the more frugivorous species. The RED-LEGGED C. is the CHOUGH (q.v.).—The name CARRION C. is given in America to the BLACK VULTURE: see VULTURE.—The PIPING C. of New South Wales is a BARITAH (q.v.).

CROW'BERRY, or CRAKE'BERRY (*Empetrum nigrum*), small procumbent shrub, of the nat. ord. *Empetracæ*;

CROWD—CROWLAND.

native of the northern parts of the world, abundant in the moors of Scotland and the north of England. The order consists of a few heath-like shrubs, which, however, are regarded as having a botanical affinity to *Euphorbiaceæ* (Spurges, etc.), with small unisexual flowers in the axils of the leaves, the fruit a small berry seated in the persistent calyx. The berries of the C. are nearly black, surround the branches in crowded clusters, and each contain 6-9 bony seeds and a watery acidulous juice, sometimes considered a refreshing drink, but generally little esteemed. A fermented or vinous liquor is prepared from them in some northern countries. They are a favorite food of game. *E. rubrum*, a native of the vicinity of Cape Horn, differs little from the northern



Crowberry :

b, fruit cut open; *c*, flower.

The berries of the Camarinheira (*Corema alba*) are used in Portugal for the preparation of an acidulous liquor as a drink in fevers.

CROWD or **CROUD**, *n. krowd*, or **CROWTH**, *n. krowth* [*W. crowth*, anything swelling out, a violin: Gael. *cruit*, a harp]: in *OE.*, a fiddle; a kind of violin.

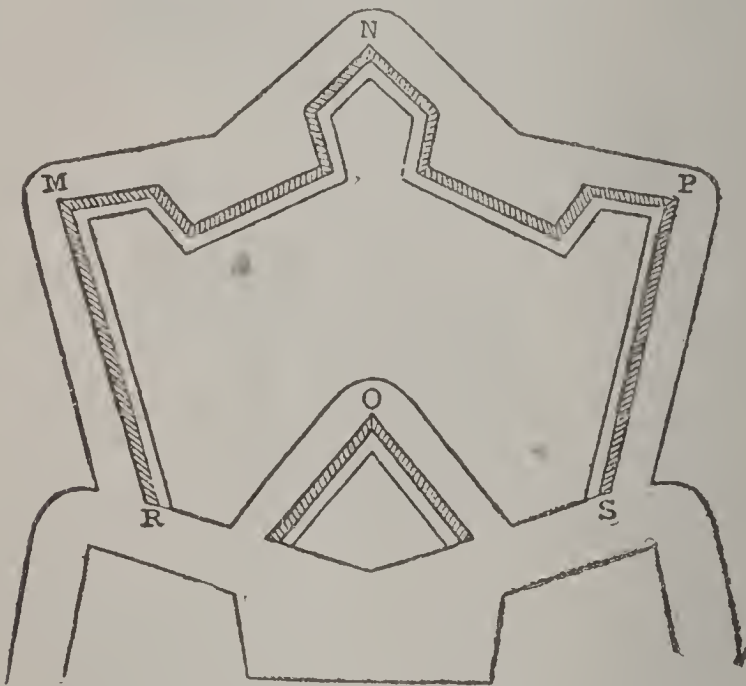
CROWD, *n. krowd* [*W. croud*, a round lump: Lith. *kruwa*, a heap, as stones or people: Dut. *kruyden*, to thrust or push forward: comp. Gael. *curradh*, a crowding together—from *curr*, a small space: connected with *curd*]: a number too great for the space; a confused multitude of persons; a throng; a mob; a number of things together; the populace: *V.* to press together; to fill to excess; to encumber with numbers; to extend to the utmost, as a ship crowds on sails. **CROWD'ING**, *imp.* **CROWD'ED**, *pp.*: **ADJ.** very full. **CROWD SAIL**, to spread all the sails widely upon the yards.—**SYN.** of 'crowd, *n.*': multitude; swarm; the vulgar; the rabble.

CROWDIE, or **CROWDY**, *n. krow'di* [Gael. *gruth*, curds; *gruthach*, coagulated: connected with *crowd* 2 and *curd*]: in *Scot.*, a mixture of meal and water, or meal and milk; gruel; curds with the whey pressed out and mixed with butter.

CROWLAND, *krō'land*, or **CROY'LAND**: ancient English town in the south of Lincolnshire, on the Welland, in a low flat district in the Fens, 48 m. s.s.e. of Lincoln. Here formerly was a large abbey, built about 1200, and there still are the remains of a church founded by King Ethelwald 716. At the confluence of the Welland and the Nene is a curious triangular bridge built probably in the 14th c. on the site of an older one erected about 860. Ingulfus, the historian, was abbot of Croyland. Pop. 3,000.

CROWN.

CROWN, n. *krown* [F. *couronne*—from OF. *corone*, a crown; L. *corōna*, a crown; W. *crwn*, round, circular; Gael. *crun*, the boss of a shield, a garland; *cruinn*, a circle, a sphere]: a golden or ornamental circlet worn around the head; the state cap or diadem of a king or sovereign; the executive government; a wreath or garland; the top part of a thing, particularly the head; a silver coin, first issued 1527. value 5s (nearly \$1.25 in U. S. currency), so named as anciently stamped with a crown: the *half-crown* also is a silver coin: V. to invest any one with regal power by the ceremony of placing the state cap or diadem on his head; to complete or finish; to reward; to dignify or adorn. **CROWN'ING**, imp.: ADJ. completing; finishing; in *mil.*, topping with works, as a crest or summit. **CROWNED**, pp. *krownd*. **CROWN'LESS**, a. without a crown. **CROWN-ANTLER**, topmost antler of the horn of a stag. **CROWN-GATE**, in *inland navig.*, the head-gate of a canal-lock. **CROWN-GLASS**, best common window-glass, consisting of silicates of sodium and calcium, composed of sand 100, potash 35, chalk 35. **CROWN IMPERIAL**: see **FRITILLARY**. **CROWN-OFFICE**, an office belonging to the court of queen's bench. **CROWN-PIECE**, a strap in a bridle, head-stall, or



halter, which passes over the head of a horse, its ends being buckled to the cheek-straps; an Eng. coin of the value of five shillings. **CROWN-POST**, in a building, a post which stands upright in the middle between two principal rafters. **CROWN-PRINCE**, a prince who succeeds to the crown or throne; the heir apparent to the throne in Germany and in Sweden. **CROWN-WHEEL**, a wheel having cogs at right angles with its plane; in a watch, the wheel which drives the balance. **CROWN-WORK**: in *fortification*, a work formed to strengthen a weak front, or to occupy ground which might facilitate the enemy's operations. It consists of two faces inclined to each other at an angle, with

a bastion in the middle, and half-bastions at the two ends; and it is connected with the main body of the work by two long sides. One form of C, is shown in the annexed cut, where RMNPS is the C., in front of and protecting the ravelin O. Both of these works are entirely beyond the main ditch of the place, but each has also a ditch of its own.

CROWN: circlet, either open or closed above, worn as a decoration on the head. Crowns were originally garlands of leaves; and in this form they have probably been used as an ornament for the head by almost every people. They were much used by both the Greeks and the Latins on joyous and on solemn occasions. Among the Greeks, the C. (*stephanos*) was sometimes an emblem of office, as in the case of the archons; sometimes an ornament for the heads of victors in the public games; and sometimes a mark of distinction for citizens who had merited well of their country. Crowns of the latter class were made at first of twigs of laurel, but afterward of gold. The Romans made use of crowns to a greater extent than the Greeks, chiefly as rewards for valor. The most highly prized was the *Corona obsidionalis*, which was bestowed by a beleaguered garrison or army on the general who rescued them. It was made of grass of wild-flowers, gathered from the place which had been inclosed by the enemy. Next in order was the *Civic C.*, a garland of oak-leaves and acorns, given as a reward to any soldier who had saved the life of a Roman citizen in battle. For the soldier who wore it, a place next to the senators was reserved at the public spectacles, and both the senate and the assemblage rose up on



Corona Muralis.



Civic Crown.

his entrance. Not only he, but his father and paternal grandfather were free from all public burdens; and the person whose life he had saved was bound ever after to show him the duty which a son owes to a father. The civic C. is sometimes used in heraldry.

Another of the Roman crowns was the *Corona muralis*, bestowed on him who first scaled the wall of a besieged city. It was a golden ring surmounted with turrets or battlements. It is often used in modern heraldry.

The *Corona triumphalis*, which was of three kinds, was bestowed on a general when he obtained a triumph.

But there was a totally different class of crowns, which were not honorary, but emblematical, and which were regulated not by law, like the former, but by custom. Of these, the most important were: 1. The *Corona sacerdotalis*,

CROWN.

worn by the priests and bystanders when engaged in sacrifice, with the exception of the *pontifex maximus*. It was sometimes of olive leaves, sometimes of ears of corn, sometimes of gold. 2. *Corona funebris* or *sepulchralis*, with which the dead was crowned, a custom among the Greeks and the Romans. A law of the Twelve Tables provided that if any one had been crowned while living, the C. should be placed on his head when carried out to burial. Crowns were placed also on the bier, and scattered from the windows under which the procession passed. In Greece, these crowns were commonly of parsley. 3. *Corona convivialis*. The custom of wearing wreaths on festive occasions, which, like most of the Roman customs, was derived from Greece, is supposed to have originated in the habit of tying a woollen fillet round the head, to mitigate the effects of intoxication. As luxury increased, they were made of such flowers and shrubs as were supposed to prevent intoxication, roses, violets, myrtle, ivy, and even parsley. 4. *Corona nuptialis*, or bridal-wreath, made of flowers plucked by the bride herself, and not bought, as such purchase was of bad omen among the Romans; it was made of verbenæ. 5. *Corona natalitia*, a chaplet suspended over the door of the vestibule in which a child was born.

Several other classical crowns are mentioned, with these, in the very elaborate article on the subject in Smith's *Dictionary*.

As the emblem of sovereignty in modern Europe, the C. was borrowed rather from the Diadem (q.v.), than the crowns of antiquity. This decoration was originally Oriental. Alexander the Great adopted it from the kings of Persia; and Antony assumed it during his luxurious intercourse with Cleopatra. According to some, its adoption for the gods originated in the fillet, which was assigned to Bacchus for the purpose mentioned as that which led to the use of the convivial crown. In modern states, crowns were of very various forms, till heralds devised a regular series of them to mark the various gradations of sovereignty, from that of the emperor down to what are now called the coronets of counts and barons. The pope also had his triple crown: see TIARA. So entirely was the C. regarded as the symbol of sovereignty, that the word came often to be used as synonymous with the monarchy—a sense in which we still speak of the C. of England, and the domains and possessions of the crown.

The crowns of kings and emperors are closed above, while the coronet of a noble is merely an open circlet surrounding the head; hence, *to close the C.* has been the ambition of princes desirous of shaking off the authority of feudal superiors, and assuming a complete sovereignty.

The royal C. of Great Britain is a circle of gold enriched with stones and pearls, and heightened with four crosses pattée, and four fleurs-de-lis alternately. From these rise four arch-diadems, adorned with pearls, which close under a mound, ensigned with a cross pattée. The C. used at the

CROWN DEBTS—CROWN LANDS.

coronation of Queen Victoria was adorned in accordance with the taste of the present time.

The coronet of the Prince of Wales is a circle of gold, set round with crosses pattée and fleurs-de-lis, but has only one arch, decorated with pearls, surmounted with a mound and cross, and bordered with ermine. In addition to his coronet, the Prince of Wales has a cognizance consisting of three ostrich feathers, argent, quilled or, enfiled with a prince's coronet of the last, with an escrol azure, whereon are the German words *Ich dien* (I serve). For the traditional origin of this badge, see PRINCE OF WALES.

The younger sons and brothers of the sovereign wear as coronet a circle of gold, bordered ermine, heightened with fleurs-de-lis, crosses pattée, and strawberry leaves alternately. Nephews of the blood-royal have strawberry leaves on their coronets, where the sons and brothers have fleurs-de-lis. Princesses-royal have a circle of gold, bordered with ermine, and heightened with crosses pattée, fleurs-de-lis, and strawberry leaves alternately. For the coronets of the different orders of nobility, see their *titles*.

THE CROWN is a term often employed to signify the state, and the matters under control of the executive authority. Thus, in the interests of the state there are C. ministers, C. lawyers, C. officers, C. lands, etc.—the term, in no instance, having any special connection with the sovereign personally. In Scotland, certain high crimes are technically called Pleas of the Crown. These are four in number—murder, robbery, rape, and wilful fire-raising. Likewise, in Scotland, there is a functionary styled C. agent, taking charge of criminal proceedings.

CROWN DEBTS, in England: debts due the crown, and recoverable by a summary process called an *extent*, on the theory that the crown's prerogative gives it precedence over all other debtors. The rule in Scotland, however, is limited to movable or personal property, and the crown has no privilege over a subject in a competition for heritage, though its privilege obtains as opposed to the landlord's Hypothec (q.v.). Mercantile sequestration has no effect against the crown. The sanctuary of Holyrood House affords no protection to the king's debtor. See EXTENT: EXCHEQUER.

CROWNER, n. *krown'ér*: old and proper, though not usual, spelling of CORONER, which see.

CROWNET, n. *krown'èt*, in *OE.*, a little crown; a coronet.

CROWN LANDS: demesne lands of the crown. In Britain these are now contracted within narrow limits, having been almost entirely granted away to subjects. King William III. so impoverished the crown in this manner, that an act was passed, the effect of which and of subsequent statutes is, that all grants or leases from the crown of royal manors, or other possessions connected with land, for a period exceeding 31 years, are void. At a much earlier period (1455), a Scottish statute had rendered the consent of parliament necessary to the alienation

CROWN POINT—CROYDON.

of the property of the crown; but neither it, nor the subsequent statutes passed with a similar object, succeeded in checking the practice: see WOODS AND FORESTS.

CROWN POINT: post village in N. Y., on the w. side of Lake Champlain, about 75 m. n. of Albany. Being within the basin of the St. Lawrence, it formed part of French Canada. With the view of bridling the English on the s., it was made the site of a fort famous in the American war, but of which the ruins only remain. The immediate neighborhood is now a township with a pop. of abt. 3,000.

CROWN SOLICITOR, in England: the solicitor to the treasury, who, in state prosecutions, acts as solicitor for the crown in preparing the prosecution. In Ireland, there are crown solicitors attached to each circuit, whose duties correspond in some degree to those of the procurators-fiscal (q. v.) and crown agent in Scotland: see CROWN. In England, there are no analogous officers, and prosecutions are consequently conducted by solicitors appointed either by the parish, or by private parties bound over by the magistrates to prosecute. But in cases of great importance to the public, such as unusual or monstrous crimes, it is of frequent occurrence that the solicitor to the treasury takes charge of the case and instructs counsel.

CROWS, *krōz*, or **ABSAROKA**: nation of American Indians of the Dakota family, divided into the Kikatsa, Ahnahaway, and Allakaweah tribes, and many years located in the neighborhood of the Yellowstone, Big Horn, and Tongue rivers. They made treaties with the govt. 1825, 51, 66, and 68; have generally been peaceably inclined, though frequently swindled; and are noted for skill in hunting, length of hair, the cleanliness of their reservation, and their progress in agriculture and civilization.

CROW-STONE: top stone of the gable-end of a building: see CORBIE STEPS.

CROYDON, *kroy'don* [Fr. *croie dune*, chalk-hill]: town in the n.e. of Surrey, England; on the London and Brighton railway, 10½ m. s. of London Bridge. It lies on the edge of the chalk and plastic clay, near the Banstead Downs, at the source of the Wandle. C. was one of the first towns in England to grapple effectually with the question of the economical disposal of town-sewage. In 1868, owing to the rapid growth of the town, new waterworks were completed. The water, which is of great purity, is from an artesian well. There are 7 railway stations at C., from which about 200 trains are dispatched daily. The archbishops of Canterbury had a palace here till 1750. This palace is now a factory, and the summer seat of the archbishops is at Addington, 4 m. e. of Croydon. About a mile from C. is Addiscombe House, former residence of the first Earl of Liverpool, but purchased by the E. India Co. 1809. When enlarged by other buildings, it became a military acad., at which cadets were educated for the artillery and engineer services of the company. At a later date, the infantry cadets also received their professional education there. Pop. (1891) 102,697.

CROZER THEOLOGICAL SEMINARY: Baptist institution, named from its founder, John Price Crozer (b. Springfield, Penn., 1793); in Chester, Pa., 14 m. s. of Philadelphia; founded 1868. The first edifice, designed by Mr. Crozer for a school of general education, cost \$45,000, and was converted to its present use by the removal thither of the theol. dept. of the univ. at Lewisburg. Besides the main building, there are a library (15,000 vols.), a large hall, and a gymnasium. The founder was a resident of Philadelphia, acquired wealth chiefly in cotton-manufacture, and removed to Upland in 1847. After his death his widow and children largely increased the endowment fund. The library has a fund of \$30 000. There are 7 instruc. and 108 pupils. Pres., Henry G. Weston, D.D.

CROZET ISLANDS, *krōz'ē*: volcanic group s. of the Indian Ocean; almost on a line between the Cape of Good Hope and the s. end of New Zealand.

CROZOPHORA, n. *krōz-ōf'ēr-a*: genus of plants, ord. *Euphorbiaceæ*, tribe *Crotonæ*.

CRUCIAL, a. *krō'shī-āl* [F. *crucial*; It. *cruciale*, crucial—from L. *crucem*, a cross]: in *surg.*, passing across; intersecting; in form of a cross; severe; trying. **CRUCIATE**, a. *krō'shī-āt*, in *bot.*, in the form of a cross. **CRUCIATED**, a. *-ā-tēd*, tormented. **CRUCIATION**, n. *-ā'shūn*, torture; exquisite pain. **CRUCIFEROUS**, a. *-sīf'ēr-ūs* [L. *fero*, I bear]: in *bot.*, pertaining to an order of plants, the **CRUCIFERÆ**, *-ēr-ē* (q. v.), having the four petals of the flower in the form of a cross. **CRUCIFORM**, a. *-sī-fawrm* [L. *forma*, a shape]: in *bot.*, consisting of four equal petals disposed in the form of a cross.

CRUCIAN, *krō'shī-an* or *krō'shan* (*Cyprinus carassius*): fish of the same genus with the Carp (q. v.), from which it differs in the lack of barbules at the mouth, in the much greater depth of body, and in the almost square tail. It attains considerable size, and is excellent for food. It inhabits lakes, ponds, and slowly flowing rivers, in the n. of Europe and of Asia. It is called *Karussa* in Sweden. It is found rarely in the Thames, and is called the *German Carp*.

CRUCIBLE, n. *krō'sī-bl* [F. *creuset*, a little earthen pot: but connected with mid. L. *crucib'ulum*, a hanging lamp, a melting-pot—from L. *crucem*, a cross, as formerly marked with a cross]: pot for melting glass, metallic ores, etc., usually of Stourbridge clay, plumbago, platinum, or other fire-resisting materials.



Crucible.

CRUCIFERÆ, *krō-sīf'ēr-ē* [Lat. cross carrying (see **CRUCIAL**)]: important nat. ord. of exogenous plants, including about 1,600 known species, and corresponding with the class *Tetradynamia* of the Linnæan system: see **BOTANY**. The flowers have a calyx of four sepals, which fall off after flowering; and a corolla of four petals, placed in the form of a cross—whence the name C.—and alternate with the sepals. There are six stamens; four long in opposite pairs, and two short between the pairs of long ones. The ovary

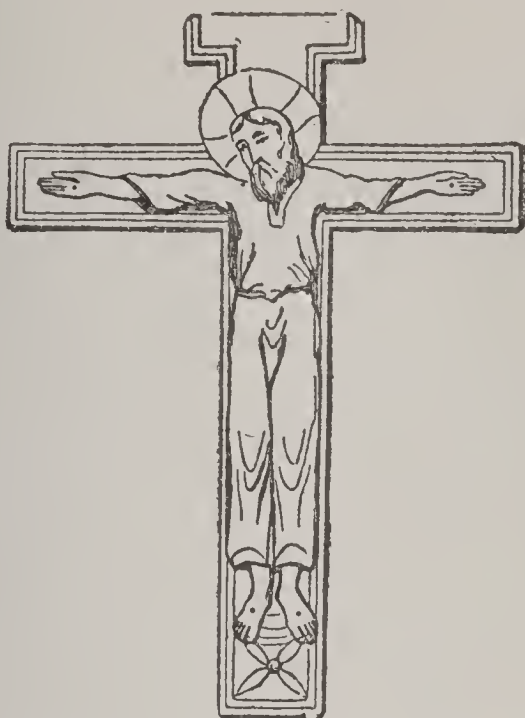
CRUCIFIX

is superior, and there are two stigmas. The fruit is either long and podlike (a *siliqua*), or a short and roundish *pouch* (*silicula*); one-celled, or (usually) spuriously two-celled, by the parietal placenta (see PLACENTA) meeting in the middle and forming a kind of Dissepiment (q.v.); and contains either one seed, or many in a single row. Linnæus divided his class *Tetradynamia* into the orders *Siliquosa* and *Siliculosa*, according to the form of the fruit, and these may be regarded also as forming sub-orders of this nat. ord.; but another division has recently been adopted, founded on the character of the Cotyledons (q.v.), and the manner in which the radicle is folded upon them (cotyledons *accumbent*, *incumbent*, or *conduplicate*). The general character of the order is antiscorbutic and stimulant, with more or less acidity. It contains many plants extensively cultivated for the food of man and of domestic animals, or valuable in medicine, as kale (cabbage, cauliflowers, broccoli, colewort, etc.), turnip, rape, radish, cress, horse-radish, scurvy-grass, mustard, sea-kale, gold of pleasure, etc. The dye-stuff called Woad is produced by a plant of this order. It includes also a number of garden-flowers highly esteemed for their beauty and fragrance, as wallflower, stock, rocket, etc. The pungency and acidity of the C. seem to depend on a volatile oil, or on different volatile oils of very similar character, present in very various degree in different species, or in the same species under different circumstances, and in different parts of the same plant. This diversity is well illustrated in the common turnip; in the different qualities of the root, as to sweetness and acidity, in different soils or seasons, and in the difference between the flesh and the rind. The seeds of the C. contain a fixed oil, which is extracted from some (rape, colza, in Europe; *Myagrum sativum* and *Erysimum perfoliatum* in Japan), to be used as a lamp-oil and in the arts, and the oil-cake is valuable for feeding cattle. The plants of this order belong mostly to the temperate parts of the world, and abound particularly in Europe. Comparatively few are found within the tropics.

CRUCIFIX: cross with the effigy of Christ fixed to it. The principal C. in Rom. Cath. churches stands in the centre of the high-altar. It overtops the tapers, and is removed only at the elevation of the host. In well-appointed Rom. Cath. churches, the altar crucifix is generally either of gold or silver. Crucifixes are used in Lutheran churches, and in Prussia they are often of Berlin iron. The C. began to take the place of the plain cross first in the time of Constantine, but it was never publicly acknowledged by the Greek Church, and did not come into general use in the East till toward the end of the 8th c. It was not till the Carolingian age that it became general in the Latin Church. On the earlier crucifixes (see the illustration) Christ is represented as alive, with open eyes, and generally clad, and fastened with four, not three nails, and with the nimbus of glory round the head.—Fairholt's *Dictionary of Terms of Art*. In later times, all these circumstances varied. Christ was often represented as dead, naked, ex-

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cept a cloth round the loins, and fastened with three nails; i.e., the two feet fastened together by one nail. The earlier artists usually represented the figure of Christ as haggard,



and his countenance as sorrowful in the last degree; but latterly the custom was introduced of representing him as the ideal of human beauty, and of throwing into his countenance an expression of rapture and heavenly joy. See **CROSS**.

CRUCIFIX, **CRUCIFIED**, etc.: see under **CRUCIFY**.

CRUCIFY, *kró'sĭ-fĭ* [F. *crucifier*—from mid. L. *crucifĭcārē* for *crucifigĕrē*; It. *crucifiggere*, to crucify—from L. *crucem*, a cross; *figo*, I fix; *fixus*, fixed]: to put to death by nailing to a cross, the body being in this way suspended; to repress and subdue evil passions and desires from love to Christ. **CRUCIFYING**, imp. **CRUCIFIED**, pp. *-fĭd*. **CRUCIFIER**, n. one who. **CRUCIFIX**, n. *kró'sĭ-fĭks* [F.—L.]: a figure in wood, metal, or other substance, representing Christ fastened to the cross. **CRUCIFIXION**, n. *fĭk'shŭn* [F.—L.]: the act of nailing to the cross; the punishment of death by the cross. **THE CRUCIFIXION**, n. the death of Christ by the cross.

CRUD, *krŭd*, and **CRUDDLE**, *krŭd'l*, same as **CURD** and **CURDLE**, which see.

CRUDE, a. *kród* [L. *crudus*, bloody, raw: W. *crau*, blood: comp. Gael. *cruadh*, hard, stiff—connected with *cruel*]: in a raw, unprepared state; rough; imperfect; clumsy; hasty; not matured. **CRUDE'LY**, ad. *-lĭ*. **CRUDE'NESS**, n. **CRUDITY**, n. *kró'dĭ-tĭ*, rawness.

CRUDEN, *kró'dĕn*, **ALEXANDER**: 1700, May 31—1770, Nov. 1; b. Aberdeen, Scotland. He was educated at Marischal College, with a view to the ministry, but having exhibited decided symptoms of insanity, he was for some time kept in confinement. On his release, he left Aber-

CRUDY—CRUIKSHANK.

deen, and after spending several years as a tutor, settled in London, 1732, first as a corrector of the press, afterward as a bookseller. In 1737, appeared his *Complete Concordance of the Holy Scriptures of the Old and New Testament*, a really great work, which has laid divines especially under deep obligations to the laborious author. The book was dedicated to Queen Caroline, who graciously promised to 'remember him,' but unfortunately died a few days after. C. now relapsed into insanity, and his friends were obliged to remove him to a private asylum, where he appears to have been harshly treated. On his recovery, he published an account of his sufferings. For the next 15 years he acted as a corrector of the press, but, in 1753, he had again to be put under restraint for a few days. C. now believed himself divinely commissioned to reform the manners of the world, and styled himself Alexander, *the Corrector*. He went about the country exhorting the people to keep holy the Sabbath day, etc. He also petitioned the king for the honor of knighthood, and the parliament to constitute him by act, 'the Corrector of the People,' hoping by such honors to influence the people more effectually. Several other foolish things were done by C. in the course of his life; nevertheless his many benevolent actions shed a pleasing light over his melancholy career. C. died at Islington. There have been a multitude of editions and abridgments of C.'s Concordance published both in Britain and America.

CRUDY, a. *kród'ĩ* [from CRUD]: in *OE.*, coagulated.
CRUDY, a. *kró'dĩ* [from CRUDE]: in *OE.*, raw.

CRUEL, a. *kró'ěl* [F. *cruel*, cruel, fierce—from L. *cru-ālis*; It. *crudele* (see CRUDE)]: having pleasure in inflicting pain or sufferings on others; barbarous; inhuman; extremely unkind; hard-hearted; merciless. CRU'ELLY. ad. *-lĩ*.
CRU'ELTY, n. *-tĩ*, inhumanity: disposition to inflict sufferings; also CRU'ELNESS, n. in *OE.*—SYN. of 'cruel': savage; pitiless; brutal.

CRUELS, also CREWELS, n. plu. *kró'ěls* [F. *écrouelles*, the king's evil]: in *popular language*, the scrofulous disease of the glands of the neck; scrofula.

CRUET, n. *kró'ět* [F. *cruchet*, a little cruse; *cruche*, a pitcher, a jug: Dut. *kruik*, a pitcher: Gael. *criot*, an earthen bottle (see CROCK and CRUCIBLE)]: a small flint-glass bottle, containing for immediate use a sauce, pepper, mustard, and the like.

CRUIKSHANK, *krúk'shank*, GEORGE: 1792, Sep. 27—1878, Feb. 1; b. London: gifted pictorial satirist. His father was a native of Aberdeenshire, and his grandfather had fought for Prince Charles Stuart at Culloden. C. at first thought of the stage as a profession; but some of his sketches having come under the notice of a publisher, he was induced to engage in the illustration of children's books and songs. When about 20 years of age, a publication, called *The Scourge*, afforded scope for his satiric genius, and from that time he pursued with remarkable success this his true vein. His illustrations for Mr. William Hone's

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political squibs and pamphlets attracted much attention, and sent some of them through no less than 50 editions. But these political caricatures, many of which were personal, were not altogether to C.'s taste. Nor, indeed, in this narrow party field did he find verge for the full exhibition of his rich fund of humor and depth of moral sarcasm. He consequently abandoned this style about 1824. In *Points of Humor*, and the designs for *Grimm's German Tales*, *Tom Thumb*, *Peter Schlemihl*, *Punch and Judy*, *My Sketch-book*, *Boz*, *Oliver Twist*, and the *Comic Almanac*, his comic genius first found ample manifestation; while in his *Sunday in London*, his *Gin-shop*, *The Upas Tree*, and especially *The Bottle*, he showed himself a moral teacher possessed of a grim Hogarthian earnestness and force. *The Bottle* consisted of a series of eight large-sized plates representing the various stages in a drunkard's career; and through temperance societies, and by its own merits, the work has had enormous circulation. As a water-colorist he left work marked by masterly and delicate skill. In his late years C. applied himself to oil painting, and in this department showed perhaps more humor, fervor, and inventive ability than artistic power (see his *Life* by Blanchard Jerrold, 1882). Several of his oil-paintings have been popular and have been engraved—as *A Runaway Knock*, *Disturbing the Congregation*, and *The Worship of Bacchus*. The list of his works amounts to 5,500.

CRUISE, n. *króz* [Dut. *kruissen*, to cross, to cruise—from *kruis*, a cross: F. *croiser*—from *croix*, a cross—from L. *crux* or *crucem*, a cross—the cross being the badge of the seamen who in former times carried on naval warfare against the infidels]: a crossing backward and forward, as on the sea: a voyage among places, or from place to place: V. to cross or traverse; to sail from place to place or within certain parts of a sea for a particular purpose, as for war or protection of commerce. **CRUISING**, imp.: N. the act of voyaging for observation, pleasure, or practice: **ADJ.** pertaining to **CRUISED**, pp. *krózd*. **CRUISER**, n. *kró'zér*, a ship of war cruising; usually a small vessel sailing about in some defined portion of sea, watching an enemy: see **CORSAIR**.

CRUISE, n. *króz*, a cup: see **CRUSE**.

CRUITHNE' [L., *Cruithnii*, *Cruthini*]: name given, from the 6th to the 9th c., to a people who inhabited the s. half of the county Antrim, and the greater part of the county Down, and at one time established themselves also in the county Meath, in Ireland. They were otherwise called Dalaradians, and their country, Dalaradia. Their name of C. is supposed to be derived from the Celtic *cruit*, color, and to have been applied to them because they painted or tattooed their skins. It is the name by which the Irish called the Picts of Britain, of whom, indeed, the Irish C. are believed to have been a branch: see **DALARADIA** and **PICTS**.

CRUIVES, *krüvz*, AND **ZAIREs**: contrivances erected upon rivers in Scotland for catching salmon. They are of great antiquity, and consisted of a kind of hedge formed

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by stakes driven into the ground the, interstices being filled with brush, and the mode of capturing salmon being similar to those employed by bag and stake nets; the earliest statute now in force, is the 11th of the first parliament of James I. (1424), interpreted by one of 1477, 'Anent cruives,' and both acts refer to an 'old statute made by King David,' requiring that 'ilk heck of the foresaidis cruves be three inch wide.' The existing arrangement, by which the stakes or hecks which prevent the passage of the larger fish must be so far apart as to permit the young salmon or fry to pass through freely, is thus as old as the time of the great founder of the Scottish monasteries and cathedrals. See SALMON.

CRUMB, also CRUM, n. *krūm* [AS. *crume*, a crumb: Gael. *criom*, a bite, a nip: Ger. *krume*; Dut. *kruime*; Dan. *krumme*, a crumb, pith]: a small part or fragment; the soft part of bread, as distinguished from the crust. CRUMB'ING, imp. CRUMBED, pp. *krūmd*. CRUMBLE, v. *krūm'bl*, to break or fall into small pieces; to molder; to perish. CRUM'BLING, imp. *-bling*. CRUM'LED, pp. *-ld*. CRUM'MY, a. *-mī*, inclined to go to crumbs; soft: V. to break into crumbs. CRUMB-BRUSH, a curve-shaped brush for sweeping crumbs from a table-cloth. CRUMB-CLOTH, a cloth laid on the top of a carpet under the table for gathering the crumbs.

CRUMP, a. *krūmp* [Sw. *krumpen*, shrunk: AS. *crump*, bowed, bent: Ger. *krumm*; W. *crum*, bending, crooked]: crooked. CRUMP-BACK, hump-back. CRUMPLE, v. *krūm'pl*, to contract; to shrink; to press in folds or wrinkles; to rumple. CRUM'PLING, imp. CRUM'PLED, pp. *-pld*.

CRUMPET, n. *krūm'pēt* [Bret. *krampoez*, a pancake (see CRUMB)]: a kind of cake or muffin; very thin bread.

CRUNCH, v. *krūnsh* [see CRAUNCH]: to crush between the teeth.

CRUPPER, n. *krūp'pēr* [F. *croupière*, a crupper—from *croupe*, the ridge of the back, the rump of a horse]: a strap of leather buckled to a saddle, and which, passing under the horse's tail, prevents the saddle from slipping forward on to the horse's neck: V. to put a crupper on. CRUP'PERING, imp. CRUP'PERED, pp. *-pērd*.

CRURAL, a. *krō'rāl* [mid. L. *cruralis*, of or pertaining to the shin or leg: L. *crura*, the legs: Sks *cri*, to go, to run]: of or belonging to the legs. CRURA, n. plu. *krō'rā* [L.]: in *bot.*, the legs or divisions of a forked tooth.

CRUSADES.

CRUSADES, *n. plu.* *kró-sādʒ'* [F. *croisade*, a crusade—from Prov. *cruzada*—from *croz*, a cross—from L. *crucem*, a cross: Sp. *cruzada*]: military expeditions of the western Christian nations in the middle ages for the recovery of the Holy Land from the Saracens, the soldiers wearing the figure of the cross, or having banners with crosses on them. CRUSADE', *n.* *-sād'*, a romantic undertaking. CRUSA'DER, *n.* *-sā' dēr*, one who. CRUSA'DING, *a.* pertaining to. CRUSA'DO, *n.* *-dō*, a Portuguese coin, so called from the figure of the cross stamped upon it.—The first crusade was undertaken simply to vindicate the *right* of Christian pilgrims to visit the Holy Sepulchre. On the conquest of Palestine, however, the *object* of the C. changed, or at least enlarged, and the efforts of the subsequent crusaders were directed to the rescue of the whole land from the Saracens, who had repossessed themselves of it. From an early period in the history of the church, it was considered a pious act to make a pilgrimage to the Holy Sepulchre, and to visit the various spots which the Savior had consecrated by his presence. When Palestine was conquered by the Arabs in the 7th c., that fierce but generous people respected the religious spirit of the pilgrims, and allowed them to build a church and a hospital in Jerusalem. Under the Fatimides of Egypt, who conquered Syria about 980, the position both of the native Christian residents and of the pilgrims became less favorable; but the subjugation of the country, 1065, by brutal hordes of Seljuk Turks from the Caucasus rendered it intolerable. These barbarians, but recently converted to Mohammedanism were nearly as ignorant of the Koran as of the Scriptures. They hardly knew their fellow-religionists, and are said to have wreaked their vengeance on the Mussulmans of Syria, as well as on the Christians. The news of their atrocities produced a deep sensation over the whole of Christendom. The first to take alarm were, naturally enough, the Byzantine monarchs. In 1073, the Greek emperor, Manuel VII., sent to supplicate the assistance of the great pope, Gregory VII., against the Turks, accompanying his petition with many expressions of profound respect for his Holiness and the Latin Church. Gregory—who beheld in the supplication of Manuel a grand opportunity for realizing the Catholic unity of Christendom—cordially responded; but circumstances prevented him from ever carrying his vast designs into execution, and the idea of a crusade died gradually away. It was, however, revived by his successor, Urban II., an able and humane man, whose sympathies were kindled by the burning zeal of Peter the Hermit, a native of Amiens, in France, who had made a pilgrimage to the Holy Land, witnessed the cruelties perpetrated by the Turks, and was now traversing Europe, preaching everywhere to crowds in the open air, and producing the most extraordinary enthusiasm by his impassioned descriptions of how pilgrims were murdered, robbed, or beaten, how shrines and holy places were desecrated, and how nothing but greed restrained the ruffian Turks (who made the Christians pay heavy taxes for their visits to Jerusalem) from

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destroying the Holy Sepulchre, and extirpating every vestige of Christianity in the land. As soon as the feelings of Europe had been sufficiently heated, Urban openly took up the question. Two councils were held in 1095. At the second, held at Clermont, in France, a crusade was definitely resolved on. The pope himself delivered a stirring address to a vast multitude of clergy and laymen, and as he proceeded, the pent-up emotions of the crowd burst forth, and cries of *Deus vult* (God wills it) rose simultaneously from the whole audience. These words, *Deus vult*, by the injunction of Urban, were made the war-cry of the enterprise, and every one that embarked in it wore, as a badge, the sign of the cross; hence the name *Crusade*.

First Crusade.—From all parts of Europe, thousands upon thousands hurried at the summons of the pope to engage in the holy war. ‘The most distant islands and savage countries,’ says William of Malmesbury, ‘were inspired with this ardent passion. The Welshman left his hunting, the Scotchman his fellowship with vermin, the Dane his drinking party, the Norwegian his raw fish.’ It is said that in the spring of 1096 not less than 6,000,000 persons were in motion toward Palestine. This, however, must be a huge exaggeration. What we do know positively is, that previous to the setting out of the great hosts of European chivalry, four armies—if disorderly and anarchic multitudes, the mere dregs and refuse of Christendom, deserve that name—amounting in all to 275,000 persons, had departed for Palestine. The first consisted of 20,000 foot, and was commanded by a Burgundian gentleman, Walter the Pennyless. It marched through Hungary, but was cut to pieces by the natives of Bulgaria, only a few, among whom was Walter himself, escaping to Constantinople. The second, consisting of 40,000 men, women, and children, was led by Peter the Hermit. It followed the same route as its predecessor, and reached Constantinople greatly reduced. Here the two united, crossed the Bosphorus, and were utterly defeated by the Turks at Nice, the capital of Bithynia. A third expedition of a similar kind, composed of 15,000 Germans, led by a priest named Gottschalk, was slaughtered or dispersed in Hungary; which also proved the grave of the *fourth*, a terrible horde, consisting of about 200,000 wretches from France, England, Flanders, and Lorraine, who had swept along through Germany, committing horrible ravages, especially against the Jews, whom they murdered ‘without mercy. Now, however, the real crusaders made their appearance: the gentry, the yeomanry, and the serfs of feudal Europe, under chiefs of the first rank and renown. Six armies appeared in the field, marching separately, and at considerable intervals of time. Their respective leaders were Godfrey of Bouillon, Duke of Lorraine; Hugh the Great, Count of Vermandois, and brother of Philippe, king of France, Robert Curthose, Duke of Normandy, the son of William the Conqueror; Count Robert of Flanders; Bohemond, Prince of Tarentum, son of the famous Guiscard,

under whom was Tancred, the favorite hero of all the historians of the crusade; and lastly, Count Raymond of Toulouse. The place of rendezvous was Constantinople. The Greek emperor, Alexius, afraid that so magnificent a host—there were in all not less than 600,000 men, exclusive of women and priests—might be induced to conquer lands for *themselves*, cajoled all the leaders, excepting Tancred and Count Raymond—into solemnly acknowledging themselves his liegemen. After some time spent in feasting, the crusaders crossed into Asia Minor (accompanied by the unfortunate Peter the Hermit). Here their first step was the siege and capture of Nice, the capital of Sultan Soliman, 1097, June 24. This monarch was defeated also by Bohemond, Tancred, and Godfrey, at Dorylæum. Baldwin, brother of Godfrey, now crossed into Mesopotamia, where he obtained the principality of Edessa. After some time, the crusaders reached Syria, and laid siege to Antioch. For seven months the city held out, and the ranks of the besiegers were fearfully thinned by famine and disease. Many even brave warriors lost heart, and began to desert. Melancholy to relate, among the list of cowards was the poor enthusiast who had planned the enterprise. Peter was actually several miles on his way home when he was overtaken by the soldiers of Tancred, and brought back to undergo a public reprimand. At length, 1098, June 3, Antioch was taken, and the inhabitants were massacred by the infuriated crusaders, who were in their turn besieged by an army of 200,000 Mohammedans sent by the Persian sultan. Once more famine and pestilence did their deadly work. Multitudes also deserted, and escaping over the walls, carried the news of the sad condition of the Christians back to Europe. But again victory crowned the efforts of the besieged. 1098, June 28, the Mohammedans were utterly routed, and the way to Jerusalem opened. It was on a bright summer morning (1099) that 40,000 crusaders, the miserable remnant of that vast array which two years before had laid siege to Nice, obtained their first glimpse of Jerusalem. The emotion was intense, the scene sublime. On July 15, after a siege of rather more than five weeks, the grand object of the expedition was realized. Jerusalem was delivered from the hands of the infidel. Eight days after the capture of the city, Godfrey of Bouillon was unanimously elected king of Jerusalem. His kingdom, at first comprising little more than the mere city of Jerusalem, was gradually extended by conquest until it included the whole of Palestine. A language resembling Norman French was established, a code of fental laws drawn up—Jerusalem was erected into a patriarchate, and Bethlehem into a bishopric. The best part of Asia Minor was restored to the Greek empire, while Bohemond became Prince of Antioch. For nearly 50 years, the three Latin principalities or kingdoms of the East—Edessa, Antioch, and Jerusalem—not only maintained themselves against the attacks of the Mohammedans of Egypt and Syria, but greatly increased in size, power, and wealth. At Jerusalem were founded the two

famous orders of the Knights Hospitallers or St. John and the Knights Templars.

Second Crusade.—In 1144, the principality of Edessa was conquered by the emir of Mosul, and the Christians slaughtered. His son, Nouredin, advanced to destroy the Latin kingdoms of Syria and Palestine. Europe once more trembled with excitement. A second crusade was preached by the famous St. Bernard, Abbot of Clairvaux, in Champagne; and early in 1147 two enormous armies, under the command of Louis VII., king of France, and Conrad III., emperor of Germany, marched for the Holy Land. Their united numbers were estimated at 1,200,000 fighting-men. The expedition, nevertheless, proved a total failure. The Greek emperor, Manuel Comnenus, was hostile; and through the treachery of his emissaries, the army of Conrad was nearly destroyed by the Turks near Iconium, while that of Louis was wrecked in the defiles of the Pisidian mountains. After a vain attempt to reduce Damascus, the relics of this mighty host returned to Europe.

Third Crusade.—The death-blow, however, to the kingdom of Jerusalem, and the power of the crusaders was given, not by Nouredin, but by Salah-Eddin, commonly called Saladin, a young Kurdish chief, who had made himself sultan of Egypt, and who aspired to the presidency of the Mohammedan world. He invaded Palestine, took town after town, and finally, 1187, Oct., compelled Jerusalem itself to capitulate, after a siege of 14 days. The news of this led to a third crusade, the chiefs of which were Frederick I. (Barbarossa), emperor of Germany, Philippe Auguste, king of France, and Richard *Cœur-de-Lion*, king of England. Barbarossa took the field first in the spring of 1189, but accidentally lost his life by fever caught from bathing in the Orontes. His army, much reduced, joined the forces of the other two monarchs before Acre, which important city was immediately besieged. In vain did Saladin attempt to relieve the defenders; and after a beleaguering of 23 months, the place surrendered. But the crusaders were not united among themselves. Philippe soon after returned to France; and Richard, after accomplishing prodigies of valor, which excited the admiration of the Saracens, concluded a treaty with Saladin, by which 'the people of the West were to be at liberty to make pilgrimages to Jerusalem, exempt from the taxes which the Saracen princes had in former times imposed.' This, as has been previously noticed, was *all* that had been claimed by the *first* crusaders. 1192, Oct. 25, Richard set sail for Europe.

Fourth Crusade.—Crusading unfortunately now became a constituent of the papal policy; and in 1203 a fourth expedition was determined upon by Pope Innocent III., though the condition of the Christians was by no means such as to call for it. It assembled at Venice, but how entirely secular crusading had become, will be seen from the fact, that the army never went to Palestine at all, but preferred to take possession of the Byzantine empire. The

leader of this host of *pseudo-crusaders*, Baldwin, Count of Flanders, was seated on the throne of the East in 1204, where he and his successors maintained themselves for 56 years.

Fifth Crusade.—This was commanded by Frederick II., emperor of Germany. It began 1228, and terminated in a treaty between that monarch and the sultan of Egypt, by which Palestine was ceded to Frederick, who, after being crowned king of Jerusalem, returned to Europe, leaving his new possessions in a state of tranquillity.

Sixth Crusade.—In 1244, a new race of Turks burst into Syria, and once more the Holy Land fell into the hands of these ferocious barbarians. Jerusalem was burned and pillaged. In 1249, Louis IX. of France (St. Louis) headed a crusade against them, but was utterly defeated, and taken prisoner by the sultan of Egypt. By the payment of a large ransom he obtained his liberty, and that of the other prisoners. On his return to Europe, he was regarded as a sort of martyr in the cause of Christ.

Seventh Crusade.—This also was primarily undertaken by St. Louis, but he having died at Tunis in 1270, on his way to Palestine, Prince Edward of England, afterward Edward I., who had originally intended to place himself under the command of St. Louis, marched direct for Palestine, where his rank and reputation in arms gathered round him all who were willing to fight for the cross. Nothing of consequence, however, was accomplished; and Edward soon returned to England, the last of the crusaders. Acre, Antioch, and Tripoli still continued in the possession of the Christians, and were defended for some time by the Templars and other military knights; but in 1291 Acre capitulated, the other towns soon followed its example, and the knights were glad to quit the country, and disperse themselves over Europe in quest of new employment, leaving Palestine in the undisturbed possession of the Saracens.

Effects of the Crusades.—While we cannot help deploring the enormous expenditure of human life which the C. occasioned, it is impossible to overlook the fact that they indirectly exercised a most beneficial influence on modern society. They secured for humanity certain advantages which probably would not have been otherwise obtained. Guizot, in his *Lectures on European Civilization*, endeavors to show their design and function in the destinies of Christendom. ‘To the first chroniclers,’ he says, ‘and consequently to the first crusaders, of whom they are but the expression, Mohammedans are objects only of hatred; it is evident that those who speak of them do not know them. The historians of the later crusades speak quite differently; it is clear that they look upon them no longer as monsters; that they have to a certain extent entered into their ideas; that they have lived with them; and that relations, and even a sort of sympathy, have been established between them.’ Thus the minds of both, particularly of the crusaders, were partly delivered from those prejudices which are the offspring of ignorance. ‘A step was taken

CRUSADES—CRUSH.

toward the enfranchisement of the human mind.' Secondly, the crusaders were brought into contact with two civilizations, richer and more advanced than their own—the Greek and the Saracenic; and it is beyond all question that they were mightily struck with the wealth and comparative refinement of the East. Thirdly, the close relationship between the chief laymen of the West and the church, occasioned by the C., enabled the former 'to inspect more narrowly the policy and motives of the papal court.' The result was very disastrous to that spirit of veneration and belief on which the church lives, and in many cases an extraordinary freedom of judgment and hardihood of opinion were induced—such as Europe had never before dreamed of. Fourthly, great social changes were brought about. A commerce between the East and West sprang up, and towns—the early homes of liberty in Europe—began to grow great and powerful. The C., indeed, 'gave maritime commerce the strongest impulse it had ever received.' The united effect of these things, again, in predisposing the minds of men for a reformation in religion, has often been noticed. Other causes undoubtedly co-operated, and in a more direct and decisive manner, but the influence of the C. in procuring an audience for Luther, cannot be overlooked by the philosophic historian.

CRUSADES, CHILDREN'S: expeditions undertaken by boys exclusively, with some vague, enthusiastic purpose of the conversion or the conquest of the Moslems. The first was preached and organized 1212 by Stephen, a French shepherd-boy of Vendome, who collected 30,000 boys and embarked with them at Marseilles for the Holy Land in three vessels, two of which were lost in a storm with all on board, and the children on the third, reaching the Holy Land, were sold as slaves to the Saracens. Another was organized by Nicholas, a German boy, who gathered 20,000 juvenile pilgrims and led them from Cologne across the Alps at Mont Cenis. A second German expedition of about the same numbers crossed the Alps and reached Brindisi. A third, confined to the city of Erfurt, began 1237, July 15, when 1,000 boys started for Armstadt, where their parents overtook them and led them home. In 1458 a company of 100 boys set out from Halle and reached Mount St. Michael in Normandy. Many of the crusaders turned back from homesickness, thousands perished on their journey, and the rest became slaves in strange countries.

CRUSCA, ACADEMIA DELLA: see **ACADEMY**.

CRUSE and **CRUISE**, *n.* *krōz* [Icel. *krus*; Ger. *krus*; Dut. *kroes*, a cup, a drinking-vessel: F. *cruche*, a jug, a crusc (see **CRUCIBLE** and **CROCK**): a small cup; a small bottle. **CRUSET**, *n.* *krō'sēt*, a goldsmith's melting-pot.

CRUSH, *v.* *krüşh* [a word imitative of the noise of crushing a hard or brittle body: OF. *croissir* and *cruisir*, to crack or crash: Sw. *krysta*; Icel. *kreista*, to squeeze, to pinch: It. *crosciare*, to crush: Lith. *krusztì*, to grind]; to press and bruise between two hard bodies; to beat or force

CRUSHERS—CRUST.

down; to subdue; to overwhelm by superior power or weight; to conquer; to be pressed into a smaller compass: N. a collision; a violent pressure, as of a crowd. CRUSH'ING, imp.: ADJ. pressing into a mass; overwhelming. CRUSHED, pp. *krüşht*: ADJ. broken or bruised by pressure or by a fall. CRUSH'ER, n. one who or that which. CRUSH CUP, in *OF.*, to empty a cup by drinking its contents.—SYN. of 'crush, v.': to press; squeeze; bruise; pound; beat; overwhelm; overcome; ruin; oppress.

CRUSH'ERS, or BRUIS'ERS: implements for reducing to small fragments corn, beans, linseed, oil-cake, and other similar hard food of horses, oxen, or hogs, that it may be more thoroughly digested. Seeds which enter the stomach with their husk or outer pellicle unbroken, often resist its powers, so that they contribute nothing to nourishment; and this is the case often with corn given to old horses; but even with perfect mastication the previous crushing of hard food is useful. C. generally consist of toothed, grooved, or otherwise roughened cylinders, revolving so as to bruise the food either against each other, or against a fixed plate of similar roughness.—CLOD-CRUSHER is an agricultural implement, a toothed or roughened roller: see ROLLER.

CRUST, n. *krust* [*OF. cruste*—from L. *crusta*, the shell of anything; imitative of the sound of crunching a crust of bread: Ger. *kruste*, a crust: Bohem. *chraustati*, to crunch]: the outward covering or shell of anything, generally harder than the body itself; the outer portion of the earth; the rind of bread; the coating of a pie; the tartar deposited from wine on the bottle, evidence of age, the wine being then called *crusted*: V. to cover with a crust; to harden the outside of a thing. CRUST'ING, imp. CRUSTED, pp. *krüst'ěd*. CRUSTA'CEA, n. plu. *-tā'shĭ ŭ*, also CRUSTA'CEANS, n. plu. *-shĭ-ănz*, a general name for all kinds of animals with jointed shells, as the crab, lobster, etc. CRUSTA'CEAN, a. *-shĭ-ăn*, pertaining to; having jointed shells. CRUSTA'CEOUS, a. *-tā'shĭs*, pertaining to; of the nature of crust or shell; in *bot.*, hard, thin, and brittle. CRUS'TATED, a. *tā-těd*, covered with a crust. CRUSTA'TION, n. *-tā'shĭn*. an adherent crust. CRUSTY, a. *krüş'tĭ*, hard; covered with a crust or shell. CRUSTED PORT, port which has completed its fermentation in bottle, known by the deposition of a crust inside the bottle.

CRUSTACEANS.

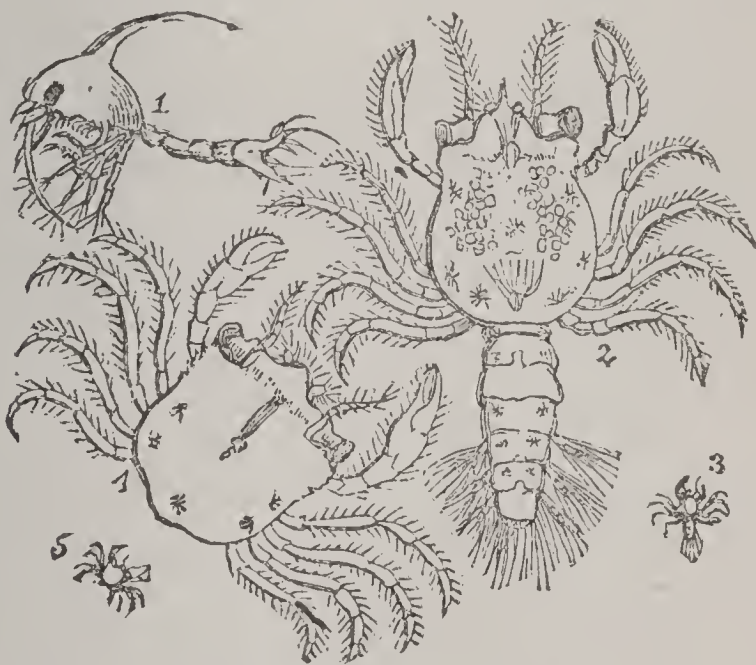
CRUSTA'CEANS (*Crustacea*): class of articulated animals, agreeing with insects, arachnida, and myriapoda in having articulated limbs; but differing from them in important respects, and particularly from all of them in the adaptation of the organs of respiration to an aquatic life, even those of them which live on land being generally inhabitants of damp places, and breathing by a kind of gills. Some of the lowest and minute aquatic C., indeed, are not provided with gills; but the aëration of the blood is supposed to take place through the surface of the body.

The C. derive their name from the hard armor which in most of them covers the whole body, forming for it that sort of framework which is sometimes, not very correctly, called an external skeleton; and which, in those of highest organization, is very complex in its structure, and contains a large amount of calcareous matter—carbonate and phosphate of lime, so that it is in its substance intermediate between shell and bone—while in many of the lower and smaller kinds it consists principally of *chitine*, and corresponds more nearly in its nature with the integuments of insects. The body of a crustacean is composed of rings (see ARTICULATA), generally 21 in number, and the crustaceous covering corresponds with it in this respect; the rings, alike of the body and its armor, being in some cases very distinct, while in others some of them in a great measure coalesce or are consolidated together, of which the thorax of a crab is an excellent example. The first seven rings are regarded as forming the head; the next seven, the thorax; and the remainder the abdomen, corresponding with the head, thorax, and abdomen of insects. The crustaceous covering is considered as a peculiar epidermis, having beneath it a true skin, from which it is an inorganic exudation; and, like the epidermis, it is cast off from time to time, that its place may be supplied anew, as the growth of the animal requires more room for the internal soft parts. In this *moulting*, or casting of the shell, the animal divests itself of its covering not in separate parts, but in one piece, including the coverings of the limbs, and even of the antennæ, although the membranes which connect the hard plates are split and torn. A period of apparent sickness precedes, and agitation accompanies, the process; and the thick muscular parts of the limbs of crabs and lobsters become soft and flaccid, so as to be much more easily extricated from their hard coverings. The loss of a limb, which sometimes takes place on such an occasion, and is otherwise a frequent occurrence, is easily repaired, for a new one grows in its stead; but it is noticeable that in order to this reproduction, the limb must be broken off at a particular joint, the second from the body, thus leaving only a short stump; and when a limb is broken elsewhere, the animal itself exercises the remarkable power of throwing it off by this joint.

The principal organ of locomotion in many C., as in the lobster, shrimp, etc., is the abdomen, terminating in fan-like appendages; by bending the abdomen suddenly down under the thorax, they dart *backward* in the water. In

CRUSTACEANS.

some, the limbs—which are connected with the thoracic rings—are organs of swimming; those of others are used for walking at the bottom of the water or on dry ground. Some have what are called *false legs* or *pro-legs* attached to the abdomen, often very different from the thoracic legs. The legs of some are fitted for burrowing. The first pair of legs is frequently transformed into a pair of powerful claws or pincers—the last joint but one being prolonged so as to oppose the last joint, which becomes attached as to the side of it; and these are used for seizing and tearing food. In many C. the limbs of the first thoracic rings are organs still more intimately connected with the mouth, and have received the name of foot-jaws, the transition from the true mandibles and maxillæ to the organs of locomotion being often very gradual. The mouth of some small parasitic C., however, is formed for sucking, and not for tearing and masticating food. The digestive organs are very simple in all; there is a short but capacious gullet, a large stomach, and a straight and simple intestinal tube. The pyloric region of the stomach is furnished with a remarkable apparatus of hard tubercles or sharp teeth for grinding or tearing food, supplementary to the external organs of the mouth. Almost all of the C. feed on animal



Metamorphoses of the Crab:

1, young crab, or *Zoea*, magnified; 2, young crab, in prawn stage, magnified; 3, prawn stage, natural size; 4, young crab, in more perfect form, magnified; 5, young crab, natural size.

food, and they are very voracious. A few feed on vegetable food. The nervous system of C. agrees generally with that of insects, and exhibits many gradations of division and concentration. C., in general, appear to possess all the five senses. Their eyes are either simple (stemmatic), aggregate (consisting of several stemmata under a common cornea), or compound. The compound eyes are often on foot-stalks. The gills are variously placed;

in the internal cavity, under the *carapace*—the enlargement of the plate of a single ring, which covers the thoracic rings in crabs, etc.; on the thoracic limbs; on the abdominal or false legs, etc. The heart is always in the middle line, and distributes the blood by arteries through the system; but the blood returns to venous *sinuses*, from which it is sent into the gills, and thence to the heart again. The sexes are distinct in most of the C.; and they are all oviparous.

The Crustacea are one of the most instructive of all groups to the comparative anatomist, on account of the extraordinary degree of differentiation, sometimes progressive, sometimes retrogressive—which they exhibit from the primitive segmented type. Their development is if possible even more remarkable, frequently exhibiting a series of metamorphoses rivalling in completeness those of insects, almost in all cases leading back to a single primitive unsegmented six-limbed form, the *Nauplius* embryo (fig. 1), and furnishing the ultimate key to the affinities of the group. Thus the free-swimming copepod cyclops and its numerous parasitic relatives, the branchiopods, the ‘multivalve’ cirripedes, and barnacles, the ancient Silurian trilobites, and even some of the highest forms (Decapoda), leave the egg as a nauplius. The prawn *Penaeus* leaves the egg as a *nauplius*, moults into a *cyclops* form, thence into a *schizopod* stage, and finally assumes its adult state; while the crab quits the egg in a *cyclops* state. The so-called *Zoea*, fig. 1, thence passes at once into the prawn stage, fig. 2, and finally into the adult form, the developmental history being here much more condensed.

The great majority of C. are marine; some belong to fresh water, a few are terrestrial. For an outline of the classification of the group, see ZOOLOGY (under Arthropoda); also CRAB: LOBSTER; CRAYFISH: also Huxley, *The Crayfish*; (Int. Sci. Series); Huxley, *Anat. of Invert. Animals*; and Muller, *Facts and Arguments for Darwin*.

CRUVELLI, *kró-věllē*, SOPHIE (Baroness VIGIER): b. Bielefeld, Prussia, 1824, Aug. 29. vocalist. She received her musical education in Paris, made her first professional appearance in Germany, sang with great success in London, Milan, Venice, and other cities, married Baron Vigier 1856, and retired from the stage. She possessed a strong, pure soprano voice and high dramatic powers, and for many years was the most popular of vocalists. She received from Ahmed Pasha, son of Mehemet Ali, money and diamonds aggregating 2,000,000 francs.

CRUST OF THE EARTH: outside solid covering of our planet. It has been the theory of geologists and is still believed by many, that the interior of the earth is a fiery molten mass; but man has been able to penetrate but a short way into the crust, and he cannot conclusively reason on his observations made at or near the surface, regarding the condition of the crust to a greater depth than a few miles, at the most ten; all beyond is little more than guess-work. The materials of the crust are not thrown confusedly

CRUSTY—CRY.

together, but distinct mineral masses are found to occupy definite spaces, or to exhibit a certain order of arrangement. These may be classified in reference to their origin, as Aqueous or Igneous; or to their age, as Primary, Secondary, and Tertiary. See these titles: also REFRIGERATION OF THE EARTH: also Fisher's *Physics of the Earth's Crust* (1882).

CRUSTY, a. *krūs'ti* [from CURST, which see]: abrupt in manner or speech; ill-tempered. CRUS'TILY, ad. *-tī-lī*. CRUS'TINESS, n. *-tī-nēs*, the quality of being crusty; peevishness; moroseness.

CRUT, n. *krūt* [contracted from CRUST]: the rough shaggy part of oak-bark.

CRUTCH, n. *krūch* [Ger. *krücke*; Dut. *kruck*; Sw. *krycka*; Lith. *kruke*, a crutch: It. *croccia*, a little cross, a crutch: mid. L. *crocia*, a crutch—from *croca*, a crook (see CROOK)]: a staff having at one end a crook or curve for the armpit; a support for the lame in walking; old age: V. to support on crutches. CRUTCH'ING, imp. CRUTCHED, pp. *krūcht*: ADJ. distinguished by wearing the symbol of the cross, as the '*crutched-friars*'; properly *crossed-friars*, of which *crutcheā-friars* is a mere corruption.

CRUX, n. *krūks* [L. a cross]: the Southern Cross—name of a constellation of the southern hemisphere.

CRUYS, *kroyz*, CORNELIS: 1657, June 14–1727: founder: of Russian maritime power. He was a rear-admiral in the Dutch service when, 1698, Peter the Great persuaded him to become vice-admiral in Russia. To C. Russia owed its first dockyards, canals, and charts, the organization of its navy, and its victories over Sweden and Turkey 1708–10. After a short period of disgrace, C. was received back to favor. He died possessor of an imperial domain in Kexholm, and owner of the island Birken in Finland.

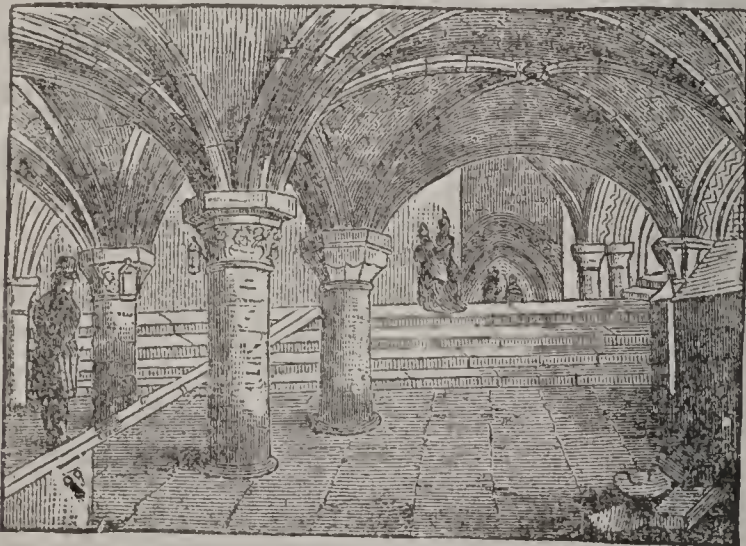
CRY, v. *krī* [imitative of a shrill sudden exertion of the voice: It. *gridare*; F. *crier*; Ger. *schreien*, to cry and weep: L. *quirītārē*, to shriek, to cry: comp. Gael. *craidh*, to pain, to cause to cry]: to utter a sound as in pain or distress; to speak or call loudly; to utter a voice in weeping or sorrow; to lament; to squall as a child; to proclaim: N. the utterance of a loud noise; lamentation; clamor; popular agitation and outcry; acclamation; noise of hounds on the scent. CRIES, n. plu. *krīz*, loud sounds uttered by any animal; vocal sounds; loud sounds in lamentation or weeping; clamor; bitter complaints; street announcements. CRYING, imp. *krī'ing*: ADJ. uttering a squalling noise, as a child; calling for notice; notorious. CRIED, pp. *krīd*. CRIER, n. *krī'ēr*, one who; a public officer who makes announcements or proclamations. To CRY AGAINST, to utter a loud voice by way of reproof or threatening. To CRY OUT AGAINST, to complain of or censure strongly. To CRY OUT, to exclaim. To CRY DOWN, to depreciate. To CRY UP, to praise or extol. To CRY TO, to call on in prayer; to implore.—SYN. of 'cry, n.': uproar; exclamation; outcry; vociferation; tumult; shouting; bawling; utterance; proclamation.

CRYOLITE—CRYPT.

CRYOLITE, n. *krī'ō-līt* [Gr. *kruos*, ice, hoar-frost; *lithos*, a stone]: a mineral, double fluoride of aluminium and sodium ($\text{NaF}, \text{Al}_2\text{F}_3$), found in the gneiss of w. Greenland; important as a source of the metal Aluminium (q.v.). In the flame of a candle it melts like ice.

CRYOPHORUS, n. *krī-ōf'ō-rūs* [Gr. *kruos*, ice, hoar-frost; *phorēō*, I bear]: apparatus for freezing water by its own evaporation. The instrument consists of a glass tube with a bulb at both ends. A little water is present in one of the bulbs, and when the second bulb, containing only water-vapor, is placed in a freezing mixture, the vapor condenses, which causes more vapor to rise from the water in the first bulb. The result of this vaporization from the first bulb is the abstraction of much heat, and ultimately the remaining water passes into a frozen state.

CRYPT, n. *krīpt* [L. *crypta*; Gr. *kruptē*, a vault, a concealed subterranean passage—from Gr. *krupto*, I conceal: F. *crypte*]: underground vaulted part of a church or other great building; sometimes a vault or cell, either entirely or partly underground. Crypts in churches do not generally extend beyond the limits of the choir or chancel, and they are often of much smaller dimensions. Crypts were formerly used as chapels, and provided with altars and the other furniture requisite for the celebration of religious services; and they were also frequently used as places of



Crypt of York Cathedral.

sepulture. It sometimes happens that a new church has been erected over the C. belonging to the old one. One of the largest crypts in England is that under Canterbury Cathedral; but there are few finer specimens of the C. anywhere than that under Glasgow Cathedral, recently freed from rubbish and restored. Crypts seem to have originated in the customs of the early Christian ages; the tombs of the martyrs were first used as churches; and then churches were built above them. **CRYPTIC**, a. *krīp'tīk*, or **CRYPTICAL**, a. *-tī-kāl*, pertaining to: hidden; secret. **CRYPTOS**,

CRYPTA—CRYPTOCORYNE.

a. -tōs, in *bot.*, inconspicuous or concealed; in composition, *crypto*.

CRYPTA, n. *křip'ta*, **CRYPTÆ**, n. plu. *křip-tē* [L.]: in *anat.*, tubular or saccular simple gland; in *bot.*, one of the receptacles of oily secretion in the leaves of the *Aurantiaceæ* (Oranges), the *Myrtaceæ* (Myrtle-blooms), and various other orders of plants.

CRYPTANDRA, n. *křip-tān'dra* [Gr. *kruptos*, hidden; *anēr*, gen. *andros*, a man; by botanists used for a stamen]: Australian genus of under-shrubs, order *Rhamnaceæ*. They look like heaths. About 70 are known.

CRYPTICUS, n. *křip'tŭ-kŭs* [Gr. *kruptikos*, fit for concealing—from *kruptō*, I conceal]: genus of beetles, family *Tenebrionidæ*.

CRYPTO-CALVINISM, i.e. *hidden Calvinism*: term applied to certain opinions supposed to be held by Melancthon and others who strove to promote harmony between the followers of Luther and those of Calvin. Melancthon, the chief author of the Augsburg Confession (q.v.), afterward published a revised edition of it in which he left out a clause that condemned the Genevan doctrine concerning Christ's spiritual presence in the sacrament of the Supper. On this account he was charged with secretly favoring an opinion contrary to the Lutheran view. But his gentle disposition and strenuous efforts to secure harmony among Protestants render it probable that, without adopting Calvin's opinion, he thought it was not sufficiently erroneous to exclude believers from communion with Christ, and therefore ought not to be positively condemned. Luther neither sanctioned the alteration, nor quarrelled with Melancthon on account of it. Yet the controversy to which it gave rise continued during the peace-loving reformer's life, and with increasing violence for 50 years after his death. During this time repeated efforts were made to crush the supposed Calvinism by imprisoning the leading men who were charged with favoring it; and, one of them, Chancellor Nicolas Orell, was, in 1611, put to death. Afterward the chief distinction between the orthodox Lutherans and the Reformed churches of Germany continued to be adherence to the 'unaltered' or to the 'altered' confession.

CRYPTOCEPHALUS, n. *křip-to-sěf'al ŭs* [Gr. *kruptos*, hidden; *kephalē*, the head]: genus of beetles, family *Chrysomelidæ*; small insects, with the head deeply inserted into the thorax, the antennæ long and filiform, the body short and cylindrical.

CRYPTOCHILIDÆ, n. *křip-to-kŭl'i-dē* [Gr. *kruptos*, hidden; *cheilos*, a lip; L. suf. -*idæ*: so named because the labellum is not easily seen on account of the contraction of the mouth of the calyx]: family of orchids, tribe *Vandee*. **CRYPTOCHILUS**, *křip-tŭ-kŭl'ŭs*, genus of orchids, typical of the family *Cryptochilidæ*.

CRYPTOCORYNE, n. *křip-to-kŏr-ŭ-nē* [Gr. *kruptos*, hidden; *korunē*, a club: so named from the shape of its flowers].

CRYPTODONTIA—CRYPTOGRAPHY.

genus of *Araceæ*. *C. ovata* is used to bring sugar to a good grain when it is too viscid and cannot be made to granulate properly by the application of lime alone. CRYPTOCORYNEÆ, *krĭp-to-kör-i' nē-ē*: tribe of *Araceæ*.

CRYPTODONTIA, n. plu. *krĭp-to-dŏn'tĭ-a* [Gr. *kruptos*, hidden; *odontos*, a tooth]: in *zool.* and *paleon.*, in Prof. Owen's classification, the second family of the *Anomodontia*, the fifth order of *Reptilia* or Reptiles.

CRYPTOGAMIA, n. plu. *krĭp'tō-gā'mĭ-ă*, or CRYPTO-GAMS, n. plu. *krĭp'tō-gāmz* [Gr. *kruptos*, concealed; *gamos*, marriage]: in *bot.*, one of the great divisions of the vegetable kingdom, comprising the mushrooms, lichens, mosses, sea-weeds, and ferns, the organs of fructification in which are concealed or not apparent; also CRYPTOG'AMY, n. *-tŏg'-ă-mĭ*. CRYP'TOGAM'IC, a. *-tŏ-gām'ik*, or CRYPTOG'AMOUS, a. *-tŏg'-ă-mūs*, pertaining to plants of the order *cryptogamia*. CRYPTOGAMOUS PLANTS, those which have no true flowers, and no known male or female organs of fructification, and whose seeds, called *spores*, consist only of a single cell, and contain no embryo, but germinate indifferently from any point; and which Jussieu therefore designated *Acotyledonous Plants* (q.v.). The name C. P. was invented by Linnæus, and the *Cryptogamia* form a class of his sexual system, very distinct from all the rest. See BOTANY. Many C. P. have no leaves; some have not even a root, and those which are lowest in organization consist only of a single cell. Many are parasitic. Many look as if dead in a dry atmosphere, and are revived by rain. They are the lowest in organization of the vegetable kingdom, and are divided into *Filices* (Ferns), *Marsileaceæ*, *Lycopodiaceæ* (Club-mosses), *Equisetaceæ* (Horse-tails), *Musci* (Mosses), *Hepaticæ*, *Lichens*, *Fungi*, *Characeæ*, and *Algæ*.

CRYPTOGRAMMA, n. *krĭp-to-grām'ma* [Gr. *kruptos*, hidden; *gramma*, a written character, or from *grammē*, a line: so called from the concealed line of capsules]: genus of ferns, order *Polypodiaceæ*, the sori at length confluent and marginal.

CRYPTOGRAPHY, n. *krĭp-tŏg'ră-fĭ* [Gr. *kruptos*, concealed; *graphē*, a writing]: the act or art of writing in secret character. CRYP'TOGRAPH'ICAL, a. *-grăf'ĭ-kāl*, pertaining to. CRYPTOG'RAPHER, n. *-tŏg'ră-fēr*, one who. CRYPTOGRAM, n. *krĭp'tō-grām*, a concealed meaning in any writing. CRYPTOLOGY, n. *krĭp-tŏl'ŏ-jĭ* [G. *logos*, a word]: the science of concealed or secret things; a secret language. CRYPTOLOGIST, n. *-jĭst*, one skilled in secret languages or cipher-writing.—The art of secret writing, more commonly called the art of writing in cipher [from Arabic *sifr*, void] has been in use from an early date in correspondence between diplomatists and others engaged in important affairs requiring secrecy. In modern times, it has been the subject of learned care to Lord Bacon, the ingenious Marquis of Worcester, Dr. Wallis, Bishop Wilkins, Thieknesse, Faleoner, Blair, etc. In British history, it has at no time been in greater requisition than during the civil

CRYPTOGRAPHY.

war, and among the politicians of the 17th c. And even now, when there is happily less need for mystery among statesmen, the need for a perfectly undecipherable mode of secret communication has again had to be looked for, in order that information may pass by the electric telegraph without being understood by the officials in connection with the apparatus.

One of the most simple methods of cryptography is to use, instead of each letter of the alphabet, a certain other letter at a regular interval in advance of it in that series. Such was a mode of secret writing devised by Julius Cæsar, who used the fourth letter, *d*, instead of the first, *a*, and so on. As a variety upon this plan, the alphabet is used invertedly—*z* for *a*, *y* for *b*, *x* for *c*, and so on. Or, while the first seven letters are represented by the second seven, the next six may be represented by the last six; and many other variations may be adopted. But for all modes like these, there are modes of decipherment far from difficult. It is necessary, in general, only to bear in mind certain peculiarities of the language presumed to be used. Supposing it to be English—we readily remember that *e* is the most frequent letter; that *ea* and *ou* are the double vowels which most frequently occur; that the consonants most common at the ends of words are *r*, *s*, and *t*; etc. We also know that a single letter must be either the pronoun *I* or the article *a*; that *an*, *at*, and *on*, are the most common words in two letters; that *the* and *and* are the most frequent words in three letters; etc. By taking advantage of these few obvious principles, a moderately skilled decipherer will read almost any such piece of cryptographic writing in five minutes. Newspapers often give, in advertising columns, correspondence on delicate subjects, even assignments for elopements, written in this manner, whose writers are little aware how open their secrets may become. Poe's interesting tale, the *Gold-Bug*, gives some instructive hints on the construction and decipherment of secret writings. For languages of continental Europe, see Breithaupt's *Ars Decifratoria*, 1737, and other works.

Politicians and important personages conducting affairs of difficulty became sensible long ago of the necessity of using ciphers of greater abstruseness. The celebrated letter of Charles I. to the Earl of Glamorgan, in which he made some condemning concessions (elsewhere denied) to the Rom. Catholics of Ireland, was composed in an alphabet of 24 short strokes variously situated upon a line. Other letters by the same monarch are to appearance a mere series of numbers of two and three figures, divided by semicolons. In such cases, it was necessary that the two parties in the correspondence should have previously concerted what words each number was to represent. Bacon devised what he thought a not easily penetrable cipher, in which he employed only *a* and *b*, arranging each of these, in groups of five, in such collocations as to represent all the 24 letters. Thus, *aabab ababa babba* conveyed the word *Fly*. The great philosopher thought that preconcertment

CRYPTOHYPNUS—CRYPTOPHAGIDÆ.

would here be necessary; but in reality any clever modern decipherer would have found no difficulty in reading any long letter composed in such a manner. The unfortunate Earl of Argyle, preparing his expedition against the tyrannical government of James II., used a mode of secret writing which consisted in setting down the words at certain intervals, which he afterward filled up with other words, making on the whole something intelligible, but indifferent. In our day, such a mode would not have been found proof against the ingenuity of those who have studied the means of decipherment. There are many other modes of secret writing, which it does not seem necessary to detail, as the art has become little more than a matter of curiosity. Among these are the trellis or card-board cipher, wheel-cipher, string-cipher, and circle-cipher.

A good treatment of the subject is an article by Dr. William Blair in *Rees's Cyclopædia*. See also *Chambers's Journal*, No. 506 (Second Series), and Nos. 87 and 115. The best modern presentation of cryptography is J. L. Kruber's *Cryptographik*. Older treatises of value are: *Poligraphia*, by John Trithemius, Abbot of Spanheim (1500), John Baptist Porta's *De Furtivis Literarum Notis* (1563), Blaise de Vigenere's *Traité des Chiffres* (Paris, 1587), Bp. John Wilkin's *Mercury, or the Secret and Swift Messenger* (1641), John Falconer's *Cryptomenysis Patefacta* (1685), John Davy's *Essay on the Art of Deciphering* (1737), Philip Thicknesse's *Treatise on the Art of Deciphering* (1772), C. Von Marten's *Cour Diplomatique* (4th ed. 1851). A curiously illustrative attempt to import arbitrarily a secret meaning into a familiar writing, is Ignatius Donnelly's recent book, assuming to trace in Shakespeare's writings a cipher concealing, and revealing, the fact that not Shakespeare, but Lord Bacon was the author.

CRYPTOHYPNUS, n. *krîp-to-hîp'nûs* [Gr. *kruptos*, secret, hidden; *hûpnos*, sleep]: genus of beetles belonging to the family *Elateridæ*.

CRYPTOLITE, n. *krîp'to-lît* [Gr. *kruptos*, hidden; *lithos*, stone]: an apparently hexagonal mineral occurring in acicular prisms and minute grains.

CRYPTONEMEÆ, n. plu. *krîp-to-nē'mē-ē* [Gr. *kruptos*, hidden; *nēma*, that which is spun, yarn—from *neō*, I spin]: sub-order of algæ (sea-weeds), order *Ceramiaceæ*. **CRYPTONE'MIA**, n. genus of *Algæ*, the typical one of the sub-order *Cryptonemæ* (q.v.).

CRYPTOPENTAMERA, n. *krîp-to-pěn-tām'ēr a* [Gr. *kruptos*, hidden; *pentamerês*, in five parts]: term sometimes applied to the beetles ranked by Latreille under his section *Tetramera*, or Beetles with four joints to the tarsi. They have really five, but the fifth joint is minute and concealed within the one adjacent.

CRYPTOPHAGIDÆ, n. plu. *krîp-to-fāj'î-dē* [Gr. *kruptos*, secret; *phageîn*, to eat]: family of beetles, order *Pentamera*. They are minute in size, and found in fungi. **CRYPT-**

CRYPTOPORTICUS—CRYSTAL.

TOPHAGUS, *křip-tŏf'a-gus*: genus of beetles, typical of the family *Cryptophagidæ*.

CRYPTOPORTICUS, *křip-to-pŏr'ti-kŭs*, or **CRYPTOPORTICO** [Gr. *kruptos*, hidden; L. *porticus*, a portico]: an inclosed portico or gallery, having a wall with openings or windows in it, instead of columns at the side.

CRYPTOPROCTA, n. *křip-to-prŏk'ta* [Gr. *kruptos*, hidden; *prŏktos*, hinder parts, bottom, tail]: genus of mammals, family *Viverridæ* (q. v.).

CRYPTORHYNCHIDES, n. plu. *křip-to-rĭngk'ĭ-dĕz* [Gr. *kruptos*, hidden; *runghos*, snout]: according to Schoenherr, author of an elaborate work on *Curculionidæ*, this is a family of *Rhyncophora*: see **WEEVIL**.

CRYPTORNIS, n. *křip-tawr'nĭs* [Gr. *kruptos*, hidden; *ornis*, a bird]: in *paleon.*, genus of birds, founded on ornithic remains from the upper Eocene.

CRYPTOSTEGIA, n. plu. **křip-to-stĕ'gĭ-a* [Gr. *kruptos*, hidden; *stegĕ*, a roof]: in *zool.*, family of *Foraminifera* with a perforate test, in the classification of Ruess; in *bot.*, a genus of twining *Asclepiadaceæ*.

CRYPTOTÆNIA, n. *křip-to-tĕn'ĭ-a* [Gr. *kruptos*, hidden; L. *tĕnia*; Gr. *tainia*, a band]: genus of *Umbellifera*. *Cryptotenĭa canadensis* (Honewort) is the only species described.

CRYPTOTETRAMERA, n. plu. *křip-to-tĕt-răm'ĕr-a* [Gr. *kruptos*, hidden; *tetramerĕs*, quadrupartite, divided into four]: name sometimes given to Latreille's section of *Coleoptera* (beetles). They are called *Trimera* because they have apparently only three joints to the tarsi. The name implies that there is a fourth joint concealed. It is nearly inclosed within the adjacent one.

CRYPTOTHECII, n. plu. *křip-to-thĕ'sĭ-ĭ* [Gr. *kruptos*, hidden; *thĕkĕ*, a box, a chest]: small group of *Muscaceæ* (Mosses). Type *Spiridens*.

CRYPTURIDÆ, n. plu. *křip-tŭr'ĭ-dĕ* [Gr. *kruptos*, hidden; *oura*, tail]: in the classification of Prince Bonaparte, family of gallinaceous birds, type *Crypturus*. **CRYPTURINÆ**, *křip-tŭr-ĭ-nĕ*, sub-family of *Tetraonidæ*. **CRYPTURUS**, *křip-tŭr'ŭs*: genus of gallinaceous birds, by Swainson and others placed under *Tetraonidæ*, and by some made the type of a sub-family *Crypturinæ*, but by Prince Bonaparte elevated into a family, *Crypturidæ*.

CRYSTAL, n. *křis'tăl* [F. *cristal*—from L. *crystallum*, rock-crystal: Gr. *krustrallos*, ice, rock-crystal—from *kruos*, frost: It. *cristallo*]: a regular solid bounded by symmetrical faces, meeting each other at definite angles; anything congealed like ice with smooth surfaces; any natural body transparent or semi-transparent; a transparent substance made by fusing certain bodies together, as an alkali with flint or sand and lead; a fine kind of glass: **ADJ.** consisting of crystal; clear; transparent. **CRYSTALLINE**, a. *-lĭn*, like

CRYSTAL ISLANDS—CRYSTALLINE ROCKS.

crystal; clear; transparent. CRYSTALLIZE, v. -līz to cause to form into crystals; to be converted into crystals. CRYSTALLIZING, imp. CRYSTALLIZED, pp. -līzd. CRYSTALLIZABLE, a. -lī'zǎ-bl, that may be formed into crystals. CRYSTALLIZATION, n. -zǎ'shŭn, the act or process of being formed into crystals. CRYSTALLIZER, n. -lī'zēr, he who or that which. SUB-CRYSTALLINE, indistinctly or faintly crystalline. ROCK-CRYSTAL, transparent or colorless quartz. CRYSTALLINE LENS or HUMOR, a white, transparent, firm substance having the form of a convex lens, situated in the anterior part of the vitreous humor of the eye: see EYE.

CRYSTAL ISLANDS: see CORAL ISLANDS.

CRYSTALLINE ROCKS: all rocks having a crystalline structure. They belong to every division of the crust of the earth, but are abundant especially in the most ancient azoic rocks; the greater proportion of intruded igneous rocks also possess this structure. When attempting in the laboratory to produce crystals, it is known that the building material must be in a fluid condition, and this is obtained either by heating to fusion or by solution. It has been asserted that all C. R. have been produced under similar circumstances; and no one can doubt that lavas and more ancient rocks having similar origin, have assumed this structure while solidifying from a condition of igneous fusion, while rock-salt is as certainly obtained from a saturated solution of salt. There are, however, many rocks, such as some fossiliferous limestones, in which this structure occurs, where it is not possible to conceive of their being in either condition. It is known that crystallization takes place in solid material, as in the axles of railway carriages, or in the crystals of pyrites in the chalk, where the iron has been gathered from the surrounding material while in a solid state. We know not what is the force that induces such a change in solid materials: it may be called metamorphic or molecular action, but these are names that merely hide our ignorance. That such a force, inducing crystalline structure in amorphous masses, has been and is now at work on the solid strata of the earth, cannot be doubted.

CRYSTALLOGRAPHY.

CRYSTALLOGRAPHY, n. *krîs'tâl-lôg'ră-fî* [Gr. *krus-tallos*, ice, rock-crystal; *graphê*, a writing]: that department of mineralogy which investigates the relation of crystalline forms, and the origin and structure of crystals. **CRYSTALLOGRAPHER**, n. one who. **CRYSTALLOGRAPHIC** or **CRYSTALLOGRAPHICAL**, a. pertaining to. **CRYSTALLOGRAPHICALLY**, ad. *-kăl-li*. **CRYSTALLOID**, a. *-loyd* [Gr. *eidos*, form]: having the form or likeness of a crystal; that is able to crystallize—opposed to *colloid*: N. that which has the form or likeness of a crystal. **CRYSTALLOMANCY**, n. *krîs'tâl lô-măn'-sî* [Gr. *manteia*, divination]: ancient sort of divination by means of translucent stones, the beryl being deemed most effective. The operator first muttered over it certain formulas of prayer, and then gave it into the hands of a youth or virgin—none others were pure enough to discern its revelations—who beheld in it the information required. It was believed that sometimes the desiderated facts appeared written on the crystal, and that sometimes the spirits invoked appeared in the crystal to answer the questions. **CRYSTALLO-CERAMIC**, n. *-se-răm'ik* [Gr. *keramos*, potter's clay, earthenware]: a kind of glass incrustation. It consists of an opaque substance imbedded in a mass of colorless glass. **CRYSTALLO-ENGRAVING**, a mode of impressing arms or badges upon a glass vessel in intaglio, produced by pressure of the heated glass against a hot die in the process of blowing.

CRYSTALLOGRAPHY: department in mineralogy which concerns the classification of crystalline forms, and the origin and structure of crystals. A crystal is a piece of matter that, by the action of molecular forces, has assumed a definite geometrical form of some kind, with plane faces. There is great variety of crystalline forms, each form being characteristic of one or more substances. The great majority of substances are capable of undergoing the process of crystallization, the exceptions being principally complex organic substances which tend to assume a globular or spherical form approaching that of organized structures. The most favorable condition for the crystallization of any substance is from its solution in water or other liquid. A liquid usually dissolves more of a salt when warm than when cold; and when a warm saturated solution is allowed to cool, a portion of the salt deposits itself in crystals. This process is that generally followed in the crystallization of saline substances. A second process resorted to in the case of the metals, such as bismuth, antimony, etc., and sulphur, is to fuse the material in a vessel, and when it is cooled down so as partially to solidify the mass, the crust is broken through, and the liquid still remaining is poured off, when a net-work of crystals is obtained. A third method is to vaporize the substance, which on condensation resolves itself into crystals. Examples of this class are the formation of snow crystals from the water-vapor in the atmosphere, and the minute black crystals of iodine obtained by allowing its vapor to condense in a cold vessel or on a cold surface.

Many circumstances affect the crystallizing power of substances. Thus, water may be cooled down below its

freezing or crystallizing point (32° F.), provided it be kept perfectly still, without becoming solid; but on subsequent agitation, it instantly crystallizes. Similarly, a hot saturated solution of sulphate of soda, or glauber salt, if cooled down in a still place, does not crystallize, but immediately does so when the liquid is agitated, or a fragment of any solid substance is introduced into it. The size of the crystals obtainable from any fluid depends much on the rate of cooling, and the state of commotion of the liquid. The more slowly the solution cools down, and the more quietly the process of crystallization is allowed to proceed, the larger are the crystals obtained; while, when the liquid is rapidly cooled, and agitation is kept up, the crystals are comparatively small, and generally not completely formed. The reason of this is, that a large crystal is constructed of a multitude of smaller crystals, built up regularly so as to constitute a compound crystal of the same form as the more minute crystalline atoms; and when a liquid is cooled slowly in a state of rest, only a few minute crystals are produced at first, and these are gradually built round on all sides by successive layers, till large, well-defined crystals are the result; while, when the liquid is rapidly lowered in temperature, and especially when agitation is kept up, numerous minute crystals are formed at once, and do not adhere together. In either case, the liquid from which the crystals have separated is called the *mother-liquor*, and is a saturated solution of the salt.

The external forms of crystals amount to several thousands, but they all may be regarded as belonging to six different systems.

The *regular system* (otherwise called the *cubic*, *octohedral*,

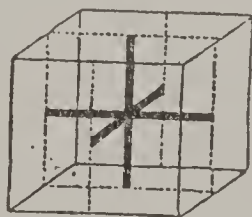


Fig. 1.

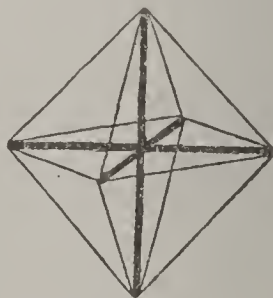


Fig. 2.

tesseral, *tessular*, *spheroidal*, or *equi-axed system*) is characterized by having three axes or straight lines passing through the same point, of equal lengths, and placed at right angles to each other. The best illustration of this system, is the cube or hexahedron (fig. 1), which has six square faces or planes, and the three equal axes (printed in bold lines) terminate in the centre of each of the square faces. The planes or squares are symmetrically arranged, so that each is perpendicular to one axis, and parallel to the other two. The crystals have each 6 square faces, with 12 equal edges, and 8 equal angles. Examples of substance which crystallize in the form of the cube or hexa-

hedron, are—common iron pyrites (FeS_2), common salt, or the chloride of sodium (NaCl), fluor-spar (CaF), galena, or the sulphuret of lead (PbS), and the metals gold, silver, platinum, and copper. Another important crystalline form belonging to the regular system is the octohedron (fig 2), where the terminations of the axes are in the angles of the crystals, as represented in the figure by the bold lines. It has 8 faces, all of which are equilateral triangles, and 12 edges, with 6 angles, each of which has 4 faces. The diamond (C), alum, zinc-blende (ZnS), sal ammonia C . (NH_4Cl), magnetic iron ore (Fe_3O_4), fluor-spar (CaF), and chrome iron ore, are examples. There are various secondary

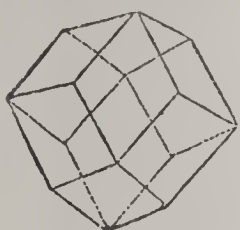


Fig. 3.

forms belonging to this system, derivable from the cube and octohedron, such as the rhombic dodecahedron (fig. 3), which has 12 faces, and is the form in which the garnet crystallizes.

The *square prismatic system* (known as the *pyramidal*, *tetragonal*, or *quadratic system*) has three axes placed at right angles to each other, of which two are of equal length, but the third may be longer or shorter. To this belong the *right square prism* (fig. 4), in which the lateral axes, termi-



Fig. 4.



Fig. 5.

nate in the centre of each side face, and the perpendicular axis is longer than the two lateral axes; and the *right square-based octohedron* (fig. 5), which resembles two pyramids placed



Fig. 6.

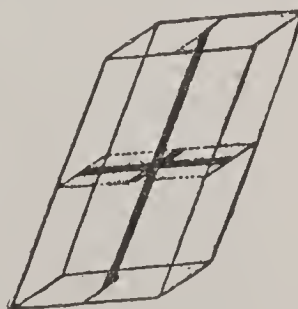


Fig. 7.

base to base, and having 8 faces, which form isosceles triangles. Examples of substances which crystallize in this

CRYSTALLOGRAPHY.

system are—yellow prussiate of potash, native binoxide of tin, zircon, apophyllite, calomel, etc.

The *right prismatic system* (otherwise known as the *right rhomboidal*, or *rectangular prismatic system*) is characterized by having three axes, all of unequal or different lengths, but placed at right angles to each other. The *right rhombic prism* (fig. 6), and the *right rhombic-based octohedron* (fig. 7), are forms included in this class, and examples of materials which crystallize in this form are—sulphur, arsenical iron pyrites, nitrate of potash, sulphate of potash, sulphate of baryta (heavy spar), topaz, arragonite, etc.

The *oblique prismatic system* (*oblique rhomboidal*, or *rectangular prismatic*) has three axes, which may be all of unequal



Fig. 8.



Fig. 9.

lengths, two of which are placed at right angles to each other, while the third axis is so inclined as to be perpendicular to one of the two axes, and oblique to the other. To this belong the *oblique rhombic prism* (fig. 8), and the *oblique rhombic-based octohedron* (fig. 9). Many salts crystallize in this form, such as green vitriol (sulphate of iron), borax, sulphate of soda, carbonate of soda, phosphate of soda, realgar (native bisulphuret of arsenic), etc.

The *doubly oblique prismatic system* has three axes of unequal length, which intersect obliquely with each other. The forms are very irregular, which render them very puzzling to make out satisfactorily. Nitrate of bismuth, sulphate of copper, sulphate of manganese, quadroxalate of potash, and pyrotartaric acid, are examples.

The *rhombohedral*, or the regular *hexagonal system*, is



Fig. 10.

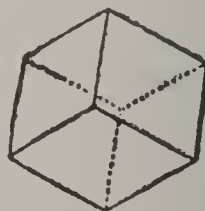


Fig. 11.

known by the presence of four axes, three of which are in the same plane, and inclined to each other at an angle of 60° , while the remaining fourth axis is perpendicular to the

CRYSTAL PALACE--CSOMA DE KÖRÖS.

three. To this belong the *regular six-sided prism* (fig. 10), and the *rhombohedron* (fig. 11). Examples of this system are—calcareous spar, ice, quartz or rock crystal, nitrate of soda, beryl, arsenic, antimony, and apatite.

CRYSTAL PALACE: see SYDENHAM: EXHIBITION.

CSABA, *chő'bő*: town of Hungary, 7 m. s.s.w. of Bekes. It is well built; some of the houses are even very elegant. It has a trade in grain, wine, and cattle. The women are noted for skill in making sacks and mattresses. Pop. of township (1880) 32,616; (1890) 32,244.

CSANAD, *chő-nád'*: county in Hungary; 640 sq. m.; level and very fertile, producing wheat, fruit, tobacco, and wine. The district is not healthful. Mako is the chief town. Pop. of county (1869) 95,847; (1890) 130,609.

CSANAD: name of two agricultural towns in Hungary, both on the Marös; one with a pop. of 4,000; the other with a pop. of 5,500.

CSAT, or CSATH, *chât* (MEZO): market town of Hungary, near the Theiss, in the dist. Borsod; about 15 m. s.e. of Miskolez. Pop. 5,000.

CSERVENA, *chěr-věn'kő*: town of Hungary, county of upper Bacs, on the Franzens Canal, about 130 m. s. of Pesth. Pop., mostly German, 7,000.

CSOMA DE KÖRÖS, *chō'mō deh ké'rësh*, ALEXANDER, (in Hungarian Köröse Csoma Sandor): 1790–1842, Apr. 11; b. Körös in Transylvania: educated first at the college of Nagy-Enyed, subsequently at Göttingen, where he zealously studied Oriental tongues. The dream and inspiration of his boyhood was the hope of one day discovering the original home of his Magyar ancestors; and as he grew up, it became the single thought and passion of his life. In 1820, he set out on his visionary pilgrimage. After a year's interval, his friends got a letter from him, dated Teheran, in which he expressed his conviction that the object of his search would speedily be obtained. Leaving Teheran, he wandered n.e. through Little Bokhara, and at length reached Tibet, where he spent about four years (1827–30) in the Buddhist monastery of Kanam, studying Tibetan. He soon discovered that there was little connection between that language and his native one, but still he hoped to make use of his researches, and set out for Calcutta. Here he learned, to his dismay, that the literature of Tibet was simply a translation from the Sanskrit—a language which he might easily have learned at home. Fortunately for C., the library of the Asiatic Society of Bengal contained upward of 1,000 volumes in Tibetan which no one could catalogue. C. undertook and successfully executed the task. By the great Anglo-Indian scholars, Prinsep, Wilson, and others, he was very generously treated. He next prepared, at the expense of the government, a Tibetan grammar and dictionary (Calcutta, 1834), the first really accurate and valuable European work on the subject. It is still a standard treatise, and has been the guide of all good

CSONGRAD—CTENOID FISHES.

scholars since. C. wrote many articles on Tibetan literature in the *Asiatic Researches*, but still haunted, as of old, by the hope of discovering the early home of the Magyars, he once more set out on an expedition to the western confines of China, but died at Darjeeling in Sikkim.

CSONGRAD, *chõn-grád'*: county in Hungary, through which flows the Theiss; 1,280 sq. m.; level and fertile, producing grain, fruits, hemp, and tobacco. Chief town, Szegedin. Pop. of county, (1890) 262,774.

CSONGRAD': town of Hungary, at the confluence of the Theiss and the Körös, 70 m. s.e. of Pesth. The inhabitants rear cattle, and cultivate the vine. Pop. (1880) 17,837; (1890) 20,802.

CTENIZA, n. plu. *těn-iz'a* [Gr. *ktenizō*, I comb]: genus of spiders, family *Mygdalidæ*, called Trapdoor Spiders: see SPIDER.

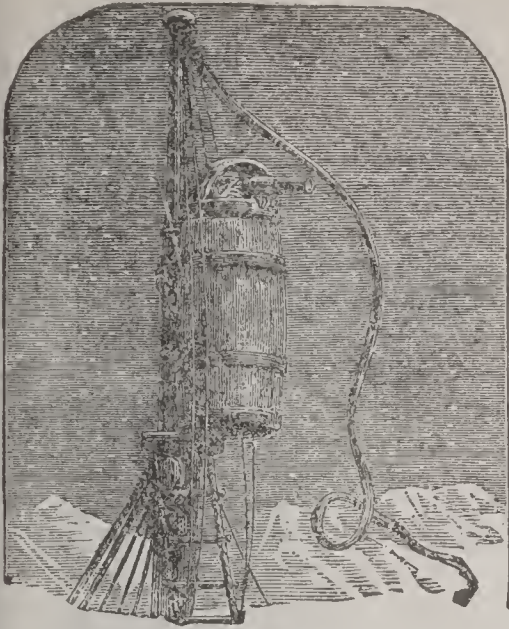
CTENOBANCHIATA, *těn-o-brāngk-ī-ā'ta* [Gr. *kteis*, gen. *ktenos*, a comb; *branchion*, a fin. plu. *gills*]: name given by Van der Hoeven to a family of mollusks characterized by spiral shells, in the last turn of which are comb-like branchiæ, as in the whelks.

CTENODACTYLUS, n. *těn-o-dāk'tī-lūs* [Gr. *kteis*, gen. *ktenos*, a comb; *daktulos*, a finger: so called because the toes are pectinated internally]: genus of *Rodentia*, family *Octodontidæ*. There are on each foot four perfect toes and an imperfect thumb, the latter destitute of a claw.

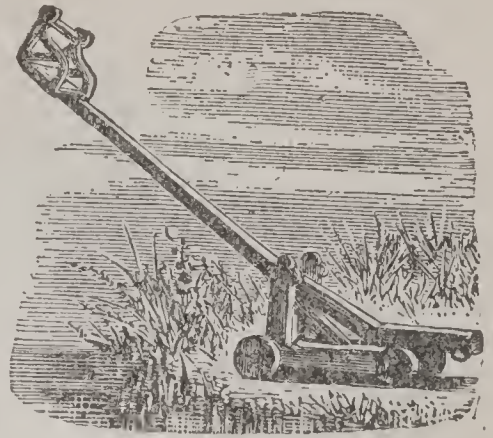
CTENODONTIDÆ, *těn-o-don'tī-dē*, n. plu. [Gr. *kteis*, gen. *ktenos*, a comb; *odontos*, gen. *odontos*, a tooth; L. suf. *-idæ*]: family of algæ, order *Ceramiceæ*, tribe *Cryptone-mææ*.

CTENOID, a. *tē'noyd* [Gr. *ktēna*, a comb; *eidos*, form]: comb-shaped; having the appearance of a comb; applied to the third order of fishes in the arrangement of Agassiz having scales whose hinder edges are toothed or comb-like, as the perch. CTENOCYST, n. *tē'nō-sist* [Gr. *kustis*, a bag]: a supposed sense-organ found in the Ctenophora. CTENOPHORA, n. plu. *tē-nōfō-rā* [Gr. *phorēō*, I bear]: order of Actinozoa, of which the *Beroë* (q.v.) may be taken as type; related to the jelly-fish, having comb-like bands of cilia: see ACALEPHÆ: ZOOLOGY (Classification). CTENOPHORE, n. *těn'o-for*, a band of cilia arranged in comb-like plates. Such an apparatus is used by the *Ctenophora* for swimming.

CTENOID FISHES, *těn'oyd* or *tē'noyd*: order of fishes, according to a classification proposed by Agassiz (see FISHES), characterized by *ctenoid* scales, i.e., imbricated scales, generally rounded or ovoid, with teeth or sharp projections on their hinder margin. The scales of C.F. are horny or bony and unenamelled. There are sometimes numerous rows of teeth or little spines, sometimes only one row, the rows successively wearing off as new ones are formed in the enlargement of the scale. Living C. F. are



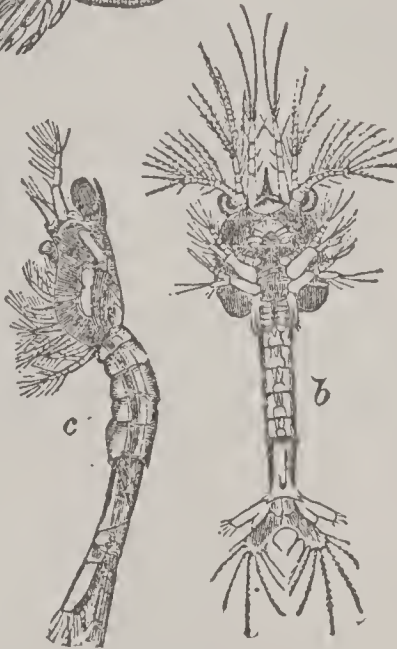
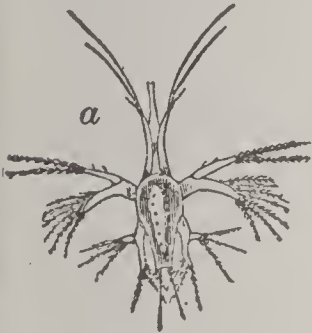
Crow's-nest, H. M. Ship *Alert*, 1875.



Cucking-stool.

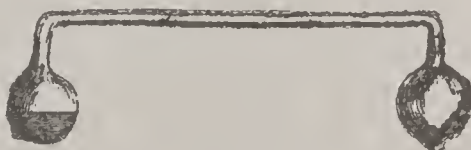


Crown-wheel of
Watch.



Cruciate Flower.

Crustacea.—Development of a Prawn (*Pencæus*): *a*, Nauplius; *b*, Zœa; *c*, Mysis; *d*, Adult.



Cryophorus.

CTENOMYS—CUB.

numerous, fossil ones comparatively few. Perches, flounders, and turbot may be mentioned as examples.



Ctenoid Scales.

CTENOMYS, n. *těn'o-mŭs* [Gr. *kteis*, gen. *ktenos*, a comb; *mus*, a mouse]: genus of rodent animals, family *Octodontidae*. The toes are five on all the feet, the innermost much shorter than the others.

CTESIAS, *tě'shŭ-as*: B.C. 5th c.; Greek historian and physician. Abridgments of his works are extant, of which his history of Persia is most important, though little authority is credited to it.

CTESIBIUS, *tě-sŭb'e-ŭs*: Greek, abt. the middle of the 3d c. B.C. He was born at Alexandria, and was famous for inventions in mechanics. We owe to him and his pupil Hero Alexandrinus, the pump, the bent siphon, and the discovery of the elastic force of air, and its application as a motive power.

CTESIPHON, *těs'e-ſon* (now AL-MADAIN): city of Assyria, on the e. bank of the Tigris; the common winter residence of the Parthian kings, and finally cap. of the Parthian kingdom. Its ruins attest its ancient magnificence.

CUB, n. *kŭb* [Icel. *kobbi*, a seal; Gael. *cubeag*; Ir. *cuib*, a young dog]: the young of certain animals, generally of the bear and fox; a boy or girl in contempt: V. to bring forth young. **CUB'PING**, imp. **CUBBED**, pp. *kŭbd*.

CUBA.

CUBA, *kū'ba*: largest island of the Antilles, and formerly a possession of the Spanish crown, whose sovereignty ceased 1899, Jan. 1, when the United States army took formal possession to guarantee an independent government to the island. It is situated in n. lat. from $19^{\circ} 50'$ to $23^{\circ} 9'$, and in w. long. from $74^{\circ} 8'$ to $84^{\circ} 58'$; length, rather more than 750 m., breadth 27 m. to 125 m.; nearly 45,700 sq. miles; about the size of Penn. The surface is mountainous at the s.e. coast, where the Sierra Maestra, rising in some places 8,000 ft., runs from Cape de Cruz to Cape de Mayzi. In the central part of the island there are rugged hilly districts between Santa Clara and Puerto Principe, also n.w. of Trinidad. The remainder of the country, though undulating, consists chiefly of well-watered plains, which everywhere support luxuriant vegetation. Rocky reefs and muddy shallows beset about two-thirds of the coast. In some localities, however, the sea is deep to the very shore, offering many excellent havens, and those, too, on the busiest marine thoroughfares of the w. hemisphere; the chief of these being the harbor of Havana, a city whose admirable situation makes it the emporium of Central America. A somewhat elevated watershed crosses the island in the direction of its length, and as the streams run at right angles to it, they are necessarily short. There is in C. no distinction of dry and rainy seasons, and there are showers every month. Hurricanes are less frequent than in the other W. India Islands, but they sometimes cause widespread desolation. One which swept over C. 1870, Oct., caused the loss of 2,000 lives. Another occurred 1873, Sep. Earthquakes are frequent. The cultivated portions of C. produce in abundance sugar, tobacco, maize, rice, yams, bananas, coffee, and all the products of the tropics; while in the districts left in a state of nature are reared countless herds of cattle. Sugar is, however, the chief product of the island.

The mineral resources of the island are known to be large, but as yet very imperfectly developed. Copper and iron are the only metals produced to any extent, and a good quality of bituminous coal is found. The production of sugar in 1892-3 was 815,894 tons, of which 680,642 tons were exported to the United States. The exports of tobacco, of which about two-thirds went to the United States, were (1893) leaf, 227,865 bales; cigars, 147,365,000; cigarettes, 39,581,493 packets: 266,000 tons of iron ore were exported to the United States in 1892. Other exports are rum, mahogany and other timber, and fruits. The imports are chiefly rice, beef, and flour. The total exports 1892 were \$84,964,685, and the imports \$56,265,315. There are about 1,100 miles of railroad besides the private lines of the sugar plantations; there are 2,810 miles of telegraph lines. The revenue of the island for 1893-4 was \$24,440,759, and the expenditures \$25,984,239.

The following shows the recent trade of C. with the United States: exports (1883) \$65,544,534; (1884) \$57,181,497; (1885) \$42,306,093; (1893) \$78,706,506; (1894) \$75,678,261; imports (1883) \$14,567,918; (1884) \$10,562,880; (1885)

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\$8,719,195; (1893) \$23,604,094; (1894) \$19,855,237. Pop. (1872) 1,370,211, of whom 730,750 were whites, about 34,000 Chinese and Hindu coolies, and 605,461 blacks; (1877) 1,394,516; (1890) 1,631,687, of whom 977,992 were Spaniards and Spanish creoles, 489,249 negroes, 10,632 foreign whites; (1899) 1,572,797. The negroes of pure blood alone have the strength necessary to do the hard work of the sugar estates, and the prosperity of the island is dependent on them. Although the creoles and the 'peninsulares' are of the same origin, the difference between them is most striking. They can be distinguished at a glance in the streets of Havana. The creoles are feeble and indolent, even when they are children of parents born in Spain. The Cuban Spaniards, on the other hand, are sturdy and energetic. Recruited from the n.e. parts of Spain, they go to C. as adventurers, chiefly to find employment as traders and mechanics, but obtain the greater share of the wealth of the island. There are upward of 200,000 adult male creoles, and half that number of Spanish Cubans; but the latter formerly had absolute control over the government of the island, which was administered unjustly. They treated the creoles with a scorn and contempt only exceeded by the hatred, mixed with fear, with which the latter regard the dominant population. 'Cuba for Cubans' was the creoles' watchword, whose most anxious desire was to be rid of the adventurers, who had secured for themselves the best share of the island's wealth. The armed intervention of the U. S. (1898) established the independence of Cuba: see SPANISH-AMERICAN WAR.

Until recently the government was administered by a governor-general and a council of administration, appointed by the Spanish government; and C. was represented in the Spanish cortes by 16 senators and 30 representatives. There are 6 provinces, each of which had a governor appointed by the crown, and a local elective assembly, which, however, had but slight control of public affairs. A U. S. military govt. was in charge, 1899-1902. The provinces from e. to w.: Santiago de Cuba, Puerto Principe, Santa Clara, Matanzas, Havana, and Pinar del Rio. The chief cities and their pop. (1899) are Havana, 235,981; Santiago de Cuba, 43,090; Puerto Principe, 25,102; Holguin, 6,045; Cardenas, 21,940; Cienfuegos, 30,038; Matanzas, 36,374.

C., which is often spoken of as the 'Pearl' or 'Queen of the Antilles,' was discovered by Columbus during his first voyage, 1492. In 1511, the island began to be permanently colonized, becoming, within ten years, the base of all the various operations against Mexico. While, in the first quarter of the present c., every continental portion of Spanish America established its independence, C. remaining, like Puerto Rico, faithful to the mother-country, largely profited by the intestine broils of the revolted provinces, for, when the old Spaniards were expelled in mass from the mainland, many of them naturally took refuge in the still loyal islands, enriching them with their capital, and energy, and skill. C. has long been coveted by other nations. In 1762, Havana was captured by a British armament, but

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was restored in the following year. When the king of Spain was deposed by Napoleon in 1808, C. remained loyal to the crown, and made many sacrifices for the royal family; but the promises of liberal treatment for C. were never fulfilled. The desire to extend the territory of the slave states made C. an object of cupidity to the southern states, and Pres. Pierce in 1848 offered Spain \$100,000,000 for the island. In 1849-51 three filibustering expeditions were led against C. from the United States by Narciso Lopez, the last resulting in his capture and execution. The Madrid ministry, 1870, passed a measure known as the Morlet law, which declared that every slave at the age of 60 should become free—and emancipated all the unborn offspring of slaves. This law never was enforced by the Spanish govt. because of the disapproval of the 'loyal party' in Cuba. Instead of doing so, it accepted their alliance, and aided them by sending troops to crush the creole and negro insurrection which broke out 1868. The struggle was carried on with varying success, and often with unexampled ferocity, for 11 years. It was not till the end of 1879 that the authorities, partly by military energy, partly by terms of compromise, succeeded in quelling the rebellion. Pardon was offered to rebels laying down their arms, and restoration of confiscated property. The loss of life in this insurrection was estimated at 200,000, including over 45,000 prisoners shot by the Spaniards. The expenditures incident to the war amounted to about \$700,000,000. In 1880 a new law was passed providing for the gradual emancipation of the slaves in C., and Oct. 7, 1886, a decree was issued emancipating the 25,000 remaining slaves and destroying the last vestiges of the system in the island. In 1894 a bill was introduced into the Spanish cortes with every prospect of passing, granting a large measure of home rule to the island; but the concession came too late to satisfy the discontent due to the long course of Spanish misrule. In Feb., 1895, José Marti, as head of a provisional government, and Gen. Maximo Gomez, as gen.-in-chief, landed in C., and a general uprising in the eastern part of the island immediately occurred. Several successes were won by the insurgents, who numbered about 7,000 men in March. Gen. Martinez Campos, who had put an end to the war of 1868-79, was sent out in April as gov.gen. and commander-in-chief, with unlimited powers and large reinforcements. By the end of Dec. the Spanish forces numbered about 90,000 besides about 40,000 *guerrilleros*, or volunteers, and a large naval force to guard the coast. In spite of this large force the insurgents had been able to keep the field with increasing force and win several battles; but the war was mainly of a guerrilla character, and the insurgents systematically destroyed the machinery of the sugar plantations, in order to cut off the chief source of revenue for Spain. In Sep., 1895, a proclamation of independence was issued and a permanent government chosen, with Salvadore Cisneros, who was pres. of the revolutionary govt. from 1873-79, as pres., Barto-

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Tomé Maso vice pres., Maximó Gomez general-in-chief, and Antonio Maceo lieut.-gen.

Early in 1896 Cuban affairs assumed new importance in the U. S., and debates in congress revealed a popular disposition on the part of this country to aid Cuba, at least to the extent of stopping the butchery of the insurgents. In Jan. Gen. Campos was recalled by Spain, and Gen. Valeriano Weyler was sent to Cuba in his place. In Feb. Gen. Weyler established the sternest martial law. In early spring Gomez and Maceo had an aggregate force of about 12,000, and large royalist reinforcements arrived from Spain. Numerous conflicts soon occurred, and Gen. Weyler was accused of shocking inhumanity to his captives. Cuban rebels were encouraged by the arrival of expeditions from the U. S. with arms and ammunition, and the warfare became more sanguinary, victory being claimed alternately by Spaniards and Cubans. Gen. Fitzhugh Lee, appointed consul-general at Havana, entered on his official duties 1896, June 3, the military situation at that time showing no prospect of Spanish success. Spain had so far sent to the island 140,000 regular troops, and had gathered 60,000 volunteers. Of the regulars, about 25,000 had died and 15,000 were in hospitals. The insurgents had about 35,000 armed men, and they ranged practically through the whole island, except the seaport towns, maintaining guerilla warfare. On July 30 the pres. of the U. S. issued a proclamation warning citizens against conspiring to aid Cuban insurgents in unlawful ways, one of the attributed reasons for this monition being that should Spain be successful in the Cuban war the Spanish govt. might have large claims for damages against the U. S., growing out of filibustering expeditions. At the end of the year the struggle was proceeding with frightful barbarism, Gen. Weyler's excursions having otherwise but meagre results. In Dec. Gen. Maceo was killed, by ambush, but his death did not have the depressing effect generally expected. The insurgents seemed only to grow more courageous. In Spain great indignation was excited by the friendly attitude of the U. S. congress toward Cuba. Early in 1897 the queen regent of Spain signed a decree instituting certain reforms of government in Cuba, which made a bad impression in Spain, as the reforms were deemed a surrender to the Cubans. The loss in Cuban trade to the U. S. through the Cuban war shows a decline of more than 50 per cent.

The Spanish government offered an armistice to the Cuban insurgents, which they refused, early in 1898. On April 5 all U. S. consuls on the island were recalled, and six days later President McKinley sent a message to Congress declaring that American intervention in Cuba was necessary. On the 19th Congress adopted resolutions declaring Cuba independent, and directing the President to use the forces of the U. S. to terminate Spanish sovereignty on the island. As soon as this was known in Madrid the Spanish authorities sent the U. S. minister his passports, thus commencing a war (April 21) that ended in the evacuation of Cuba by the Spanish troops: see SPANISH-AMERICAN WAR.

CUBAGUA—CUBEB.

CUBAGUA, *kô-vá'gwá*: island in the Caribbean Sea, off the n.e. coast of Venezuela in S. America. It is in the dept. of Maturin, between Margarita and the mainland, about 30 m. n. of the town of Cumana.

CUBAN, n. *kū'băn*: native or naturalized resident of Cuba. A. of or pertaining to Cuba.

CUBANITE, n. *kū'băn-īt*: a yellowish copper iron sulphide.

CUBATION, n. *kū-ba'shŭn* [L. *cubāre*, to lie down: It. *cubare*]: a reclining; the act of lying down. **CUBATORY**, a. *kū'bă-tēr'ī*, lying down; recumbent.

CUBE, n. *kūb* [F. *cube*—from L. *cubus*, a square on all sides: Gr. *kubos*: Ar. *kū'ab*, anything in the form of a block]: a solid body with six equal sides, all squares; a number multiplied twice by itself, as $4 \times 4 \times 4 = 64$, 64 being the cube of 4: V. to raise to the third power. **CUBING**, imp. **CUBED**, pp. *kūbd*. **CUBIC**, a. *kū'bīk*, or **CUBICAL**, a. *kū'bī-kāl*, solid; not superficial; pertaining to the length, breadth, and thickness of a body. **CUBICALLY**, ad. *-lī*. **CUBICALNESS**, n. state or quality of being cubical. **CUBIFORM**, a. *-bī-fawrm* [L. *forma*, shape]: having the form of a cube. **CUBOID**, a. *-boyd*, or **CUBOIDAL**, a. *-dāl* [Gr. *eidos*, form]: having nearly the form of a cube. **CUBE ROOT**, the first power of a cube, as 4 is the *cube root* of 64. **CUBO-CUBE**, n. *kū'bō-kūb*, the square of the cube, or the sixth power of a number. **CUBO-CUBO-CUBE**, the cube of the cube, or the ninth power of a number. **CUBATURE**, n. *kū'bă-tăr*, the finding exactly the solid or cubic contents of a body. **CUBE-ORE**, an arseniate of iron, occurring in perfect cubes in copper ores. **CUBOID BONE**, one of the small bones of the foot.

CUBE: a solid with six square faces, each of which is parallel to the one opposite to it. It is a form of frequent occurrence in nature, especially among crystals: see **CRYSTALLOGRAPHY**.—In arithmetic, the C. of a number is the product of its multiplication three times by itself. This use of the term arises from the circumstance that the solid contents of a C. may be expressed by the third power of the number which expresses the length of one of its edges. Thus, if the edge of a C. be a line of 4 inches, its solid contents are equal to $4 \times 4 \times 4 = 64$ cubic inches. Conversely, the C. root of a number is that number which, multiplied three times by itself, produces the first number: see **DOUBLING THE CUBE**.

CUBEB, *kū'bēb* [Hind. *kubāba*]: dried small spicy berry of *Cubeba officinalis* and other species of *Cubeba*, a genus of climbing shrubs of the nat. ord. *Piperaceæ*, very closely allied to the true peppers (thence called sometimes *Cubeb Pepper*), but distinguished at once by the contraction and elongation of the berries at the base, so that they appear to be stalked, upon which account C. are called sometimes *Piper caudatum*, or tailed pepper. *Cubeba officinalis* is a native of Penang, Java, New Guinea, etc., and is said to be extensively cultivated in some parts of Java. Its spikes are solitary, opposite to the leaves, and usually produce about 50 berries, which are globular, and when dried, have much resemblance to black pepper, except in their

CUBICAL NITRE—CUBIT.

lighter color, and the stalk with which they are furnished. *Cubeba canina*, native of the Sunda and Molucca islands, is supposed also to yield part of the cubebs of commerce, and the berries of *C. Wallichii* have similar properties. Cubebs are less pungent, and more pleasantly aromatic than black pepper; they are used in the East as a condiment, but in Europe chiefly for medicinal purposes; they act as a stimulant, and are sometimes useful in cases of indigestion, also in chronic catarrhs, and in many affections of the mucous membrane, particularly those of the urino-genital system. Cubebs contain a principle called *Cubebine*, analogous to that contained in pepper (*piperine*). They appear to have been known in Europe from ancient times. In 1305, Edward I. granted to the corporation of London the power of levying a toll of one farthing on every pound of cubebs passing over London Bridge.

CUBICAL NITRE, *kū'bi-kl nī'tér*: commercial name for sodium nitrate, NaNO_3 : see **SODA**.

CUBIC EQUATION, *kū'bik ē-kwā'shūn*, containing but one unknown quantity: equation in which the highest exponent of the quantity in any term is 3. Every such equation can be reduced to the general form $x^3 + px + q = 0$, in which the coefficient of x^3 is 1, and that of x^2 is zero. Every cubic equation of this form has three roots, all of which may be real, or one only may be real, and the other two imaginary. The roots will all be real, when p is essentially negative, and $\frac{p^3}{27} > \frac{q^2}{4}$ numerically. One root only will be real when p is essentially positive, or when it is negative, and $\frac{p^3}{27} < \frac{q^2}{4}$ numerically. If p is essentially negative, and $\frac{p^3}{27} = \frac{q^2}{4}$, two of the roots are equal. When one of the roots only is real, the equation may be solved by the following formula, known as Cardan's formula:

$$x = \sqrt[3]{-\frac{q}{2} + \sqrt{\left(\frac{q^2}{4} + \frac{p^3}{27}\right)}} + \sqrt[3]{-\frac{q}{2} - \sqrt{\left(\frac{q^2}{4} + \frac{p^3}{27}\right)}}.$$

When the roots are all real, this formula fails to give their values. Methods of solving C. E. are to be found in most books on trigonometry and algebra. They all are troublesome. For the theory of their solution, see *Young's Theory of Equations*: see also **EQUATIONS**.

CUBICLE, n. *kū'bi-kl* [L. *cubilē*, a couch; *cumbo*, I lie down]: a small compartment or division of a dormitory for a single sleeper.

CUBILE, n. *kū'bi-lē* [L.]: in *masonry*, the ground-work or lowest course of stones in a building.

CUBIT, n. *kū'bīt* [Gr. *kubiton*, the elbow or bending of the arm—from *kupto*, I bend: L. *cubitum*, the elbow, bending or curvature of a shore—from *cubārē*, to lie or bow down: It. *cubito*: comp. Gael. *cub*, to bend; *cubach*, bent]: ancient measure, equal to the length of a man's arm from

CUBOID—CUCKOO.

the elbow to the extremity of the middle finger; its precise length is not known, and is supposed to have varied at different times; also the use of a greater and a less cubit is inferred by many writers; in general the Hebrew cubit or *ammah* seems to have measured from abt. 18 in. to a little more than 22 in.; and the Roman cubit to have been not far from 18 inches; in *anat.*, the forearm. CU'BITAL, a. -bī-tāl, of the length or measure of a cubit; pertaining to the elbow. CU'BITED, a. -bī-tēd, having the measure of a cubit.

CUBOID, a. *kū'boyd*: see under CUBE.

CUCA: see COCA.

CUCKING-STOOL, n. *kūk'ing-stól* [Manx, *cugh*, excrement in children's language: L. *caco*: Gr. *kakōō*, I go to stool: Icel. *cuka*, to go to stool]: chair on which females for certain offenses, as for brawling and scolding, were formerly fastened and ducked: see DUCKING STOOL. *Note*.—CUCKING-STOOL may only be a corrupt spelling for CHUCKING-STOOL—from Scotch *chuck*, to toss or throw smartly out of the hand.

CUCKOLD: see under CUCKOO.

CUCKOO, n. *kūk'kó* [F. *coucou*, the cuckoo—from L. *cŭcŭlus*, the cuckoo: Gr. *kokku*, the cry of a cuckoo]: a well-known bird, so called from its note in spring. CUCKOO SPIT, or -SPIT'TLE, n. a frothy matter found on plants, containing the larva of the frog-hopper. CUCKOLD, n. *kūk'öld* [OF. *cocuol*, a cuckold—from *coucou*: comp. Gael. *caochladh*, change]: a husband whose wife is false to his bed, in reference to the cuckoo, which lays its eggs in the nests of other birds. CUCK'OLDLY, a. -lī, having the qualities of a cuckold; poor; mean; cowardly. CUCKOLD-MAKER, one who corrupts men's wives. CUCK'OLDOM, n. act of adultery; state of a cuckold. CUCK'ODRY, n. -rī, system of making cuckolds. CUCKOO-BEES, n. plu. bees of the family *Andrenidæ*, genus *Nomada*: so called because instead of making nests they deposit their eggs in the cells of other bees. They are elegant in form and brightly colored. CUCKOO-BUD, the *Ranuncŭlus bulbōsus*, a native wild plant, ord. *Ranuncŭlācēæ*. CUCKOO-FLIES, name often given to the hymenopterous insects called Ichneumonides, which deposit their eggs in the nests of other insects or in the bodies of their larvæ. The eggs when hatched give egress to predatory larvæ, which devour the insects that have sheltered them. CUCKOO-FLOWER, the *Cardām'inē praten'sis*, a native wild flower, ord. *Crucifēræ*. CUCKOO-PINT, a native poisonous plant called 'lords and ladies,' or the 'wake-robin'; the *Arum macŭlātum*, ord. *Arācēæ*.

CUC'KOO: genus of birds of the order of Climbers (q.v.); type of a family, *Cuculidæ*, which contains a large number of species, mostly confined to the warmer regions of the globe, though some of them are summer visitants of cold climates. The beak is compressed and slightly arched, and the tail long and rounded, the wings rather long, the tarsi short, two toes directed forward, and two

CUCKOO.

backward, the outer hind-toe capable of being brought half round to the front. The feet are thus adapted for grasping and moving about upon branches, rather than for climbing, and the long tail is much used by many of the species for balancing the body, as they hop from branch to branch in the thick tropical woods which they frequent. The name C. is derived from the note of the male of the Common C. (*Cuculus canorus*), which, although monotonous, is always heard with pleasure, being associated with all that is delightful in returning spring. A similar name is given to the bird in many languages. The C. is very widely diffused; it is found in India and in Africa, and migrates northward in summer, even to Lapland and Kamtchatka. It appears in Britain in April, and all except the young birds are believed to migrate southward again before the middle of August. It frequents both cultivated districts and moors. There is no



Common Cuckoo (*Cuculus canorus*).

pairing or continued attachment of the male and female, and the female, after having laid an egg on the ground, deposits it, *with her beak*, in the nest of some other smaller bird, leaving the egg to be hatched and the young one to be fed by the proper owners of the nest. The egg of the C. is very small for so large a bird, being not larger than the skylark's, and the number she will lay is uncertain; but the young one soon acquires size and strength enough to eject from the nest any eggs which may remain in it, or unfortunate young birds, the true offspring of its foster-parents, and it seems restless and uneasy till this is accomplished. It works itself under them, and then jerks them out by a motion of its rump. Its back at this early age exhibits a peculiar depression between the shoulders, so that an egg or a young bird can easily be got to lie upon it; but this depression soon disappears, and along with it the singular instinct with which it is supposed to be connected. The hedge-sparrow, the yellow-hammer, the pied wagtail, and the meadow pipit, are among the birds most frequently selected by the C. as its substitutes in incubation and the care of its young. A pair of meadow.

CUCUBALUS—CUCUMBER.

pipits usually accompany the cuckoo wherever it goes. The reason of this curious fellowship has not been ascertained.—Among the *Cuculide* of N. America, one of the most interesting is the Yellow-billed American C., sometimes called from its note the *Cow-cow* or *Cow-bird* (*Coccyzus Americanus*). It does not lay its eggs in the nests of other birds, but builds and hatches for itself—exhibiting, however, a remarkable peculiarity in laying its eggs at such long intervals, that a very evident difference of age appears among the young in the same nest.

CUCUBALUS, n. *kū-kū'bal-ŭs*: genus of plants, ord. *Caryophyllaceæ*, tribe *Sileneæ*; genus of jelly fishes.

CUCUJIDÆ, n. *kū-kū'jĭ-dē* [mod. L. *cucujus*, and suf. *-idæ*]: a family of beetles. **CUCUJUS**, *kū-kū'jŭs*: genus of beetles, typical of the family *Cucujidæ*.

CUCULIDÆ, n. plu. *kū-kūl'ĭ-dē* [L. *cuculus*, and suf. *-idæ*]: family of scansorial birds. It is divided into five sub-families: (1) *Cuculinæ* (true Cuckoos), (2) *Crotophaginæ* (Anis), (3) *Coccyzinæ* (Hook-billed Cuckoos), (4) *Saurotherinæ* (Ground Cuckoos), (5) *Indicatorinæ* (Honey-guides). See **CUCKOO**.

CUCULATE, a. *kū-kŭl'lāt*, or **CU'CULLA'TED**, a. [L. *cucullus*, a cowl or hood: It. *cucullo*]: in *bot.*, formed like a hood; covered as with a hood or cowl.

CUCUMBER, n. *kū'kŭm-bēr* [OF. *coucombres*—from L. *cŭcŭmis* or *cŭcŭm'ĕrem*, a cucumber]: genus of plants of the nat. ord. *Cucurbitaceæ*. The **COMMON C.** (*C. sativus*), distinguished by heart-shaped, acuminate pentangular leaves, which are rough with hairs approaching to bristles, and oblong fruit, is a native of the middle and south of Asia, and has been cultivated from the earliest times. Its fruit is an important article of food in its native regions, the south of Europe, etc., and an esteemed delicacy in colder countries, where it is produced by the aid of artificial heat. Many varieties are in cultivation, with fruit from four inches to two ft. long, rough, smooth, etc. Young cucumbers are much used for pickling, and are called *gherkins*. The C. has a trailing growth, and requires a sunny situation, and a free rich soil.—To this genus belong other species valued for their edible fruit. *C. Anguria* is a W. Indian species, with fruit about as large as a pullet's egg, much esteemed as an ingredient in soups. The **SNAKE C.** (*C. flexuosus*) grows to a great length, and is similar in quality to the common cucumber. *C. serotinus* is cultivated in Turkey, *C. macrocarpus* in Brazil; the **CONOMON** (*C. conomon*) is much cultivated in Japan. For the **Melon** (*C. melo*), **Water Melon** (*C. citrullus*), **Chate** (*C. chate*), and **Kaukoor** (*C. utilis*), see **MELON**; for the species yielding colocynth, see **COLOCYNTH**.—The **DUDAIM** (*C. dudaim*) is very generally cultivated in gardens in the East for the fragrance of its fruit, which, however, is almost tasteless. It is supposed that this plant is sometimes meant in the Old Testament, where the English version has *mandrake*.—The **SPIRTING C.**, **SQUIRTING C.**, or **WILD C.**, which yields the drug called *Elaterium* (q. v.), belongs to an allied genus.

CUCUMBER-TREE—CUDBEAR.

CUCUMBER-TREE: forest growth of the United States, of the magnolia family, native of the Alleghany mountain region, though found in many states between Niagara Falls and Ga. It grows tall, with foliage of a darker green shade than other magnolias, bears small light green flowers, and fruit similar in size and shape to the edible cucumber. The fruit is very bitter, and its expressed juice is used in the manufacture of tonic and anti-rheumatic medicine, cosmetic, ointment, and pomade. Pumps and boats, especially canoes, are made from its wood, because of its lightness.

CUCURBIT, n. *kū-kér'bit* [L. and It. *cūcurbīta*, a gourd: F. *cucurbite*]: a chemical vessel in the shape of a gourd having a wide mouth. **CUCURBITA**, *-bī-ta*, typical genus of the order *Cucurbitaceæ*. **CUCURBITA'CEOUS**, a. *-bī-tā'shūs*, resembling a cucumber or gourd. **CUCURBITA'CEÆ**, n. *-tā'shī-ē*, nat. ord. of exogenous plants, consisting chiefly of herbaceous plants, natives of the warmer regions of the globe, having succulent stems which climb by means of lateral tendrils. There are some shrubby species. The fruit (*pepo*) is peculiar; it is more or less succulent, has a thick fleshy rind, and the seed bearing parietal placentæ either surrounding a central cavity, or sending prolongations inward. The seeds are flat and ovate, embedded in a sort of pulp, which is either dry or juicy.—This order contains about 300 species, very many of which yield fruits much used for food in warm climates, and some are cultivated in colder regions as articles of luxury. The fruit of some attains a very large size. To this order belong the cucumber, melon, gourd (of many kinds), pumpkin, squash, vegetable marrow, bottle gourd, etc. The young shoots and leaves of many species are used also as potherbs; and the roots of some abound in a bland fecula, and are edible, as those of *Momordica dioica* and *Bryonia umbellata*, E. Indian plants. Yet acridity is a prevailing characteristic, of which the Spirling Cucumber (see **ELATERIUM**) of the south of Europe, and the common **BRYONY** (q.v.) are examples. These are not without their use in medicine, but still more important is the **COLOCYNTH** (q.v.).—Among the more interesting species of this order is *Hodgsonia heteroclita*, a gigantic species, in the Himalaya Mountains, growing even at an elevation of 5,000 ft. The seeds of some C. are used as almonds, and yield oil by expression, as those of *Telfairia pedata*, an African plant.

CUD, n. *kūd* [AS. *cud*, what is chewed, a cud: comp. Gael. *cuid*, a small piece, a bit: Icel. *quidr*, the womb, the paunch: Esthon *köht*, the belly]: the food which a ruminating animal, as the cow or sheep, throws up from its first stomach to chew at leisure. **CUD'CHEWING**, applied to ruminating animals. To **CHEW THE CUD**, *fig.* to reflect, as to chew the cud of bitter reflection.

CUDBEAR, n. *kūd'bār* [after Dr. Cuthbert Gordon under whose management the manufacture was begun in Leith, Scotland, abt. 1777]: purple or violet dyestuff similar to Archil (q.v.) and Litmus (q.v.), and obtained in the same manner from lichens by the action of ammoniacal liqu'ids. It is used chiefly as a purple dye for woollen yarn, but the

CUDDALORE—CUDDAPAH.

color is rather fugitive. The name C., or C. LICHEN, is often appropriated to one particular species of lichen, *Lecanora tartarea*, which is abundant on rocks in the Highlands of Scotland and in the Alpine and n. districts of Europe, and from which the dyestuff C. is usually obtained by maceration for 10 or 12 days in urine with water and chalk. The species of the genus *Lecanora* are crustaceous lichens, with a flat uniform *thallus*, and unstalked *shields*. *L. tartarea* forms a thick, granulated, and tartareous grayish-



Cudbear (*Lecanora tartarea*).

white crust, with scattered yellowish-brown shields. It is sometimes called *White Swedish Moss*, being largely imported from Sweden.

CUDDALORE, *kūḍ-da-lōr'*: chief town in the s. division of Arcot (q.v.); one of the few seaports on the Coromandel, or e. coast of Hindustan. It is on the estuary of the Southern Pennaur, a considerable tributary of the Bay of Bengal; lat. $11^{\circ} 43'$ n., and long. $79^{\circ} 50'$ e. It is 15 m. s. of Pondicherry, and 100 s. of Madras. Though the river itself is beset by a bar, which admits vessels only of moderate size, yet there is good anchorage off-shore at the distance of a mile and a half. The site is not more than 5 ft. above high-water mark; nevertheless the climate is said to be peculiarly healthful. C. was formerly a place of great strength; and in that respect it was frequently an object of contention in the desolating wars during the latter half of the 18th c. In 1758, it was taken by the French from the English, who had held it for 77 years; and, after various intermediate vicissitudes, it was finally ceded to its original possessors, 1783. Pop. (1901) 52,216.

CUDDAPAH, *kūḍ'dā-pā*: district in the presidency of Madras; lat. from $13^{\circ} 12'$ to $16^{\circ} 19'$ n., and long. from $77^{\circ} 52'$ to $79^{\circ} 48'$ e.; 8,745 sq. m. Sloping toward the Bay of Bengal, the country ranges, in general elevation above the sea, between 1,182 and 450 ft. C. is traversed in its length from n. to s. by numerous parallel ridges, part of the Eastern Ghauts—some of the peaks rising 3,500 ft. above the sea. The maximum, mean, and minimum temperatures are said to be respectively 98° , 81° , and 65° F. In the hot season,

CUDDAPAH—CUDWEED.

the climate is understood to be peculiarly trying to European constitutions. The most striking feature in the physical character of the district is the remains of diamond mines, now abandoned, and probably exhausted, about seven m. from the capital. C. was ceded to Britain 1800; and in 1846 it was the scene of serious disturbances, occasioned by an unwise interference on the part of government with the prescriptive titles to landed property. Pop. (1891) 1,268,887.

CUDDAPAH: a native town with a military cantonment in the presidency of Madras, from which it lies about 140 m. n.w. It is 507 ft. above the sea; near the right or south bank of the Northern Pennaur, which flows into the Bay of Bengal. Lat. 14° 32' n., and long. 78° 52' e. The native town itself claims notice merely as the cap. of the dist. of its own name; and the military cantonment, pleasantly overhanging the Bogawanka, an auxiliary of the Pennaur, contains barracks for Europeans, and spacious lines for sepoys. Pop. (1881) 18,982; (1891) 17,379.

CUDDLE, v. *kūḍ'l* [a corruption of OE. *couthle*, to be frequently familiar—from *couth*, well-known: Dan. *kudde*, a flock: old Dut. *kudden*, to come together: comp. Gael. *cadail*, sleep, rest in bed]: to embrace so as to keep warm; to fondle; to lie close and snug. **CUD'DLING**, imp. **CUD-DLED**, pp. *kūḍ'ld*.

CUDDY or **CUDDIE**, n. *kūḍ'dī* [Gael. *cuidich*, to assist in farm work, to help: probably a familiar corruption of *Cuthbert*]: a farm laborer; a boor; a donkey-driver; a donkey; a three-legged stool employed as a fulcrum on laying or repairing railway lines; the coal-fish—one of the cod-fish family. *Note*.—The coal-fish is popularly called a *cuddy*, from the corruption of *cuth* = *cud*, the name of the young of the coal-fish in its first year, the Icel. *dth*, having been treated as if an Eng. *d*.

CUDDY, n. *kūḍ dī* [probably a contraction of *cuddle*, to lie close and snug: W. *caued*, shut up or inclosed]: name applied first in E. India trading ships to a cabin under the poop, where the men messed and slept; afterward to the only cabin in very small vessels; and sometimes to the cooking-room, or even any small low-roofed apartment on shore.

CUDGEL, n. *kūḡ'ēl* [Gael. *cuigeal*, a distaff—from *cuaille*, a club: Ir. *cuigeal*, and *coigeal*, a distaff—from *cuail*, a pole: W. *cogyl*, a cudgel; *cogail*, a distaff]: a short thick stick of wood which may be held in the hand and used as a weapon: V. to beat with a thick stick. **CUDG'ELLING**, imp. **CUDG'ELLED**, pp. *-ēld*. **CUDG'ELLER**, n. one who.

CUDWEED, n. *kūḍ'wēd* [probably a contraction of *cotton-weed*]: popular name of many species of plants of the genera *Gnaphalium*, *Filago*, and *Antennaria*, of the nat. ord. *Compositæ*, sub-order *Corymbifera*, the stems and leaves of which are more or less covered with a whitish cottony down; and the heads of flowers consist, in great part, of dry involucreal scales, and may be kept for a long time without undergoing much apparent change, so that they

CUDWORTH—CUE.

may be reckoned among *Everlasting Flowers* (q.v.) The cudweeds are small plants of unpretending appearance. *Antennaria dioica*, sometimes called Cat's foot, is frequent in dry mountain pastures; its heads of flowers, from the appearance of which it derives this name, were formerly officinal, and were employed as an astringent in pectoral diseases.

CUDWORTH, *kūd'worth*, RALPH, D.D.: 1617–1688, July 26; b. Aller, in Somersetshire, England. He was admitted pensioner of Emmanuel College, Cambridge, 1630, where he took his degrees M.A., and became an eminent tutor. About 1641 he was presented to the rectory of North Cadbury, Somersetshire; and 1644, upon taking his degree of B.D., maintained two theses, in which can be discerned the germs of his *Intellectual System*. In the same year he was appointed master of Clare Hall, Cambridge, and 1645, regius prof. of Hebrew; after which he began to apply himself assiduously to the study of Jewish antiquities. In 1651, he took his degree D.D.; 1654, was chosen master of Christ's College; 1662, appointed to the vicarage of Ashwell; 1678, installed prebendary of Gloucester. He died at Christ's College.

C.'s *magnum opus*, entitled *The True Intellectual System of the Universe*, was published 1678. It is a work of great learning, acuteness, and loftiness of thought; but some, at the time, thought that C. exhibited too much impartiality in stating the atheistic arguments. Dryden said 'that he raised such strong objections against the being of a God and Providence, that many thought he had not answered them.' Lord Shaftesbury and Bayle were of this opinion also. The accusation of impartiality—a rare offense in those contentious days—is not likely to lessen modern admiration of Cudworth. The philosophy to which he was attached was that of Plato, and, in consequence, he estimated highly the writings of the Alexandrian school, to which his own bear some resemblance. The obloquy to which his adventurous studies exposed him, does not seem to have greatly affected him. Besides *The Intellectual System*, C. left in ms. *A Treatise concerning Eternal and Immutabile Morality*, published by Dr. Chandler, Bp. of Durham, 1731; forming, or intended to form, the second part of *The Intellectual System*; also a discourse *On Liberty and Necessity, On Moral Good and Evil, On the Creation of the World and the Immortality of the Soul*, etc. These mss. are now in the British Museum.

CUE, n. *kū* [F. *queue*, a tail, a handle]: a braided tress of long hair, growing from the crown of the head, and dangling down the back; the end of a thing; the last words of the preceding speech written with the speech of an actor, in order to let him know when he is to proceed with his part, marked with the letter Q as an abbreviated form; a hint; an intimation; a short direction; the straight rod used at billiards; humor, as to be in the *cue*. *Note*.—The obsolete *cue*, meaning 'a farthing,' arose from the sound of the letter *q*, the initial of L. *quadrans* a fourth part, a farthing.

CUENCA—CUFF.

CUENCA, *kwě'n'ká*: mountainous, well-watered province of Spain; yielding excellent timber, honey, wine, and grain, with good pasture, and various minerals, including iron, coal, copper, and silver; 6,722 sq. miles. Pop. (1900) 249,696.

CUENCA: city of Spain, at the confluence of the Jucar and Huecar, about midway between Valencia and Madrid. It is romantically situated on a rocky eminence, 3,400 ft. above the level of the sea, surrounded by hills. It appears to have derived its name [*L. concha*, a shell] from its position and appearance. Ford says it is 'indeed a hill-girt shell.' The town is of Moorish origin. The streets are narrow and crooked. The chief buildings are the cathedral, the bishop's palace, and a fine bridge over the Jucar (erected 1523), connecting the city with the convent of San Pablo. C. was celebrated for arts, literature, and industry, but its glory has now quite departed. It suffered much during the Peninsular campaign. Pop. 8,200.

CUENCA: city of Ecuador, S. America; on a wide plain or table-land, 8,640 ft. above the sea. It is 85 m. s.s.w. of Quito, cap. of the republic; lat. $1\frac{1}{2}^{\circ}$ s.—its proximity to the equator being largely neutralized, with regard to climate, by its altitude. It has a cathedral and a university. Pop. estimated 30,000.

CUEVA, *kwā'vá*, **BEATRIZ DE LA**: d. 1541, Sep. 11; b. Spain: wife of Pedro de Alvarado. She was the second wife of the conqueror of Guatemala, and after his death, 1541, July, was elected to succeed him as head of the govt. by the council of the colony. The day after her inauguration she was killed during the destruction of the city by earthquake and flood.

CUEVA DE VERA, *kwā'vá dā vā'rā*: town of Spain, province of Granada, 42 m. n.e. of Almeria; on a plain on the right bank of the Almanzor, near its entrance into the Mediterranean. It is generally well built, and its streets are regular. The principal edifices are an old Moorish castle, and the parish church in the Doric style. C. has manufactures of hardware, earthenware, and of wine and oil; and many persons are employed in mines in the vicinity. Pop. 20,644.

CUEVAS DAVALOS, *kwā'vás dā-vá'lōs*, **ALONZO**: 1590, Nov. 25—1665, Sep. 2; b. Mexico City: Rom. Cath. bp. He was educated at San Ildefonso College, and became prof. of theology in the Univ. of Mexico, first prebend of the Puebla Cathedral 1635, bp. of Oaxaca, and abp. of Mexico City 1664. He was the first native Mexican exalted by the church to that high office, and noted for his charitable and educational labors as well as for his rare executive abilities.

CUFF, n. *kűf* [Hamburg, *kuffen*, to box the ears: It. *schiaffo*, a cuff, a clap with the hand on the cheek: Sw. *kuffa*, to thrust, to knock]: a blow with the clenched hand or fist; a box or stroke: V. to strike with the fist or clenched

CUFF—CUIRASS.

hand, or with wings, as a bird. CUF'ING, imp. CUFFED, pp. *kűft*.

CUFF, n. *kűf* [Dan. *klap*, a flap: Sw. *klaff*, anything that hangs broad and loose: OF. *cæffe*, head-dress]: the part of a sleeve which flaps or claps back; a wrist-band.

CUFFEE, *kűf'fē*, PAUL: 1757–1812, Mar. 7; b. Montauk, L. I.: Indian preacher. He belonged to the Shinnecock tribe of Indians which at one time occupied a large part of Long Island, was educated by the New York Missionary Soc., and was the fourth missionary employed by it for service in his tribe. He was a man of great activity and influence, and preached among his people with considerable success for 13 years.

CUFFEE, PAUL: 1759–1818, Sep. 7; b. near New Bedford, Mass.: son of a Negro slave and an Indian mother. At an early age he became a member of the Society of Friends, and adopted a sea-faring life, in which he gained wealth. He subsequently applied much of his time and money to the colonization of liberated American slaves on the w. coast of Africa; visited the region in his own ship to select a location, 1811, and took out and established a colony, 1815. He died while negotiating with the British govt. for permission to locate similar colonies in Sierra Leone.

CUFIC, a. *kűf'ík* [from *Cufa*, the city where it was most early in use]: an Arabic alphabet so called: see KUFIC WRITING.

CUI BONO? *kű' bō'nō* [L. for whose good?]: a common expression signifying, 'for whose benefit?' often improperly used in the sense of, 'what's the good? what's the use?'

CUICHUNCHUL' (*Ionidium parviflorum*): Peruvian plant of the nat. ord. *Violaceæ*, half-shrubby, with minute leaves, possessing very active emetic and purgative properties, and said to be a certain remedy for *Elephantiasis tuberculata*. Other species of *Ionidium* share the same name, properties, and reputation. One of them was formerly supposed to yield ipecacuanha, and its root is still known as White ipecacuanha: see IPECACUANHA.

CUINAGE, n. *kwűn'āj* [a corruption of *coinage*]: the stamping of pigs of tin with the arms of the duchy of Cornwall.

CUIRASS, n. *kwű-rās'* [F. *cuirasse*—from *cuir*, leather—from It. *corazza*—from mid. L. *corātiā*, a breastplate—from L. *coriūm*, hide, leather]: originally a jerkin, or garment of leather for soldiers, so thick and strong as to be pistol-proof, and even musket-proof; afterward, a portion of armor made of metal, consisting of a back-plate and breast-plate hooked or buckled together; with a piece jointed to the back called a *culet* or *garde de reins*. CUIRASSIERS, n. *kwű-rās-sēr'*, in the time of Queen Mary, heavy horsemen wearing body-armor over buff-coats. They carried swords and pistols, and the reins were strengthened with iron chains. In modern armies, the name is often given to the heaviest

CUISINE—CUJACIUS.

cavalry. Napoleon's 12 regiments of cuirassiers attracted much attention during his wars. The first rank of Russian cuirassiers are armed with lances. The only cuirassiers in the British army (wearing the cuirass) are the Life Guards (red) and Horse Guards (blue); and in these the cuirass is rather for show than for use.

CUISINE, *kwi zēn'* [F. *cuisine*—from It. *cucina*; Sp. *cocina*—from mid. L. *coquina* or *cocina*, a kitchen—from L. *coquo*, I boil, I cook: comp. AS. *cycene*, a kitchen]: the kitchen; the cooking department.

CUISSE, n. *kwīs*, or CUISH, n. *kwīsh* [F. *cuisse*, the thigh, the leg—from L. *coxa*, the hip]: in *OE*, ancient armor for troopers, consisting of small strips of iron plate riveted horizontally upon one another over the thigh—generally in plu. CUISS'ES and CUISH'ES, also CUISSARTS.

CUJACIUS, *ku-jā'shī-ās*, properly JACQUES DE CUJAS, or CUJEUS: distinguished jurist: 1522–1590, Oct. 4; son of a tanner of Toulouse. After studying law, he was appointed teacher of the same at Cahors (1554), and in the following year, by the recommendation of the Chancellor L'Hopital, gained the chair of law in the univ. of Bourges. In 1557, he became prof. at Valence. After several changes, he returned to Bourges, 1577, where he resided till his death.

His great reputation as a jurist was founded on his study of original mss. of the Roman laws, and on his classical treatment of these authorities. He had in his library 500 mss. on Roman law, and by his emendations contributed greatly to remove the obscurities of jurisprudence. A complete collection of his works was edited by Fabrot (10 vols. Par. 1658), and has since been republished frequently. Uhl has edited separately C.'s *Animadversiones et Observationes*. C.'s daughter made herself notorious by her immoralities. See Spangenberg's *C. und seine Zeitgenossen* (Leip. 1822).

CULDEE.

CULDEE, n. *kŭl'dē*, also KELDEE [Gael. *Cuileach*, a Culdee: Ir. *ceilede*, a servant of God, a Culdee: Gael. *gille De*, servant of God: mid. L. *Culdēi*, corrupted from L. *cultor Dēi*, a worshipper of God]: ancient monkish priest whose order ministered in Ireland, Scotland, and Wales, and are thought to be traceable at one or two points in England. CULDEAN, a. *kŭl-dē'ān*, pertaining to the anc. Culdees or their doctrines.—The word Culdee seems of Celtic origin, and in the Irish language signifies an 'attendant of God.' Giraldus Cambrensis, writing toward the end of the 12th c., when the order still flourished, interprets the name in one place by the Latin word *calicola*, i.e., 'worshipper of heaven;' and in another by *celebs*, i.e. 'single,' or 'unmarried.' Boece and Buchanan, in the 16th c., translate it *cultores Dēi*, i.e. 'worshippers of God.'

There is some uncertainty as to the first appearance of the order. There is no trace of it in the works of Adamnan, of Bede, of Alcuin, or of any other ecclesiastical historian of the 8th or 9th c. An abbot and bishop of the north of Ireland, who compiled a metrical calendar of Irish saints about A.D. 800, was known in his own time as 'Ængus the Ceile-De.' But it has been questioned whether the title was not used rather to denote his great personal piety, than to describe his ecclesiastical character. The Four Masters, again, in their *Annals of Ireland*, compiled about 1636, record certain great wonders wrought by a Ceile-De in the year 806. But no such event is recorded in the ancient chronicles from which the Four Masters compiled their work, and Irish antiquaries think that the passage must therefore be rejected as apocryphal. But in Irish annals of undoubted authority, it is chronicled that, in 919, 'a Ceile-De came across the sea westward to establish laws in Ireland;' in other words, as Irish archeologists conjecture, to bring the Irish into conformity with the rule for canons which had been enacted in 816, at the council of Aix-la-Chapelle. The annals of Ulster record that, in 920, Armagh was plundered by Godfrey, son of Ivor, the Dane, but that he spared the oratories with the C. and the sick. The Culdees of Armagh, who thus appear in the beginning of the 10th c., survived till the beginning of the 17th c. Abp. Usher (died 1655) writes that they continued until within' his own memory. They were secular priests or canons, about 12 in number, living in community, under the rule of a prior, who—after the beginning of the 13th c., when the metropolitan cathedral of St. Patrick was remodelled after the English fashion—officiated as precentor, his Culdees being the clerks or choir. The antiphonary or service-book, with the musical notation, from which they sang, is still preserved in the library of Trinity College, Dublin; and its calendar records the deaths of several of their number, one of them so lately as 1574. The prior seems generally to have been a pluralist, it having been formally ruled in 1448, after an appeal to Rome, 'that the priory of the college of secular priests, commonly called Culdees, being a simple office, and without cure of souls, is not incompatible with a benefice.' The Culdees of Ar-

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magh, dissolved at the Reformation, 1541, were resuscitated for a brief space, 1627. Their old possessions—among which were seven town-lands containing 1,423 acres, seven rectories, and four vicarages—were, 1634, bestowed upon the vicars choral of the cathedral, who still hold them.

There were at least seven other houses of Culdees in Ireland, viz., at Clonmacnois, Clondalkin, Devenish, Clones, Popull, Monanincha, and Sligo.

If tradition be trusted, the first appearance of Culdees in Scotland should be placed about the middle of the 9th c. A leaf of the Register of St. Andrews, written about 1130, relates that Brude, the son of Dergard, last king of the Picts (ceased to reign about 843), gave the island, since called St. Serf's Inch, in Lochleven, to God, St. Servan, and the Culdee hermits serving God there. They were governed by an abbot; and about 1093, during the rule of Abbot Ronan, they gave up their island to the Bp. of St. Andrews, on condition that he should find them in food and raiment. They had grants of lands or immunities from all the kings of the Scots who reigned 1039–1153, the roll of these royal benefactors being headed by the renowned Macbeth (1039–56) and his wife Gruoch, daughter of Bodhe. They had a grant of a church from each of the three bishops who ruled the see of St. Andrews, 1040–93; and about 1120, they had a grant of lands from one of the sons of King Malcolm Canmore and St. Margaret—Ethelred, Earl of Fife, and hereditary lay-abbot of the Culdee monastery of Dunkeld. A few years afterward, the Bp. of St. Andrews gives their island, and all their possessions, including their church vestments and their books, to the newly founded Canons Regular of St. Andrews, in order that a priory of that rule might supplant the old abbey of Culdees in St. Serf's Inch. About 1140, the bishop's grant was enforced by a charter from King David, in which it was ordered that such of the Culdees as chose to live canonically and peacefully under the new canons should remain in the island. 'If any one of them refuse so to do,' says the king, 'my will is, and I command, that he be expelled from the island.' We hear no more of the Culdee hermits of Lochleven. The Canons Regular who came in their place continued till the Reformation, and we are indebted to one of their priors, Andrew Wyntoun (died about 1429) for a valuable metrical Chronicle of Scotland. A catalogue of the books of the Culdee abbey, when it was bestowed upon the Canons Regular of St. Andrews, about 1140, has been preserved. The number of volumes was not quite 20. They were—a Pastoral, a Gradual, a Missal, some of the works of Origen, the Sentences of St. Bernard (still living), a Treatise on the Sacraments, in three parts, a part of the Bible, a Lectionary, the Acts of the Apostles, the Gospels, the works of Prosper, the books of Proverbs, Ecclesiastes, and Canticles, a Gloss on the Canticles, a work called *Interpretationes Dictionum*, a Collection of Sentences, a Commentary on Genesis, and a Treatise on the Exceptions from Ecclesiastical Rules.

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The Culdees of St. Andrews were of more importance, and not perhaps of less antiquity, than those of Lochleven. The death of an abbot of St. Andrews is chronicled by the Irish annals in 747. It is not said that he was a Culdee; but in 944, when Constantine, king of Scots, exchanged his crown for a monk's cowl, it is recorded that he became 'abbot of the Culdees of St. Andrews.' No more is heard of them till about the middle of the 12th c. A priory of Canons Regular had now been planted beside them, and from its records we learn that in the church of St. Andrew, such as it then was, there were 13 Culdees holding their office by hereditary tenure, and 'living rather according to their own pleasure and the traditions of men, than after the rules of the holy fathers;' that some few things of little importance they possessed in common; that the rest, including what was of most value, they held as their private property, each enjoying what he got from relatives and kinsmen, or from the benevolence granted on the tenure of pure friendship, or otherwise; that after they became Culdees they were forbidden to have their wives in their houses, or any other women of whom evil suspicion could arise; that the altar of St. Andrew was left without a minister, nor was mass celebrated there except on the rare occasion of a visit from the king or the bishop, for the Culdees said their own office after their own way in a corner of the church. The attempt to supplant the Culdees by Canons Regular, which had succeeded at Lochleven, was repeated at St. Andrews, but failed. The Culdees kept their own church—St. Mary's, or the Kirk of the Heugh—and had a voice with the Canons Regular in the election of the bishop. Their abbot disappears about the middle of the 11th c.; and soon afterward their 'prior' exchanges that title for the name of 'provost.' Their distinctive character was gradually passing away; before the end of the 14th c. they lose their share in the election of the bishop; their name of Culdee is heard no more; their church, about the same time, takes the name of the King's Chapel-royal; and henceforth there remains nothing to distinguish them from the secular priests of other collegiate churches.

The Culdees of the church of St. Mary at Monymusk, in Aberdeenshire, appear to have been founded by the Bp. of St. Andrews toward the end of the 11th c. In the beginning of the 13th c. they are found making claim to be regarded as Canons Regular. The claim was resisted by the Bp. of St. Andrews, and 1211, after an appeal to Rome, the dispute was settled by a compromise, which provided that there should be 13 Culdees at Monymusk, of whom one—to be chosen by the bishop from a list of three presented by the other Culdees—should be the master or prior; that they should have a refectory, a common dormitory, and an oratory, but no cemetery; that they should not adopt the monastic or canonical life or rule without leave of the bishop; and that when he came to Monymusk, he should be received by the Culdees in solemn procession. Before this agreement is 50 years old, the

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name of Culdees disappears from Monymusk, and their house is recognized as a priory of Canons Regular.

Culdees are found at Abernethy, in Strathearn, about 1120. In the end of that c., their possessions appear to have been divided between their hereditary lay-abbot (the founder of the noble family of Abernethy) and the prior and Culdees by whom the burden of the ecclesiastical offices was borne. In 1273, they were transformed into Canons Regular. The same partition of the Culdee revenues which appears at Abernethy, is found at Brechin. A layman, abbot only in name, inherits a large share of the Culdee patrimony, and transmits it to his descendants, who soon lose even the name of abbot. The prior and his Culdees, meanwhile, are absorbed into the chapter of the new bishopric, founded at Brechin by King David I., about 1145; in less than a hundred years, the name of Culdees disappears, and the chapter is one wholly of secular canons. The same silent change of Culdees into secular canons, which took place at Brechin during the 13th c., took place also at Dunblane, at Dunkeld, at Lismore, at Rossmarky, and at Dornoch. Culdees are found in the bishop's chapter at each of these places in the 12th c.; they disappear before the end of the 13th c., leaving the chapter one of secular canons. At Dunkeld, as at Brechin and at Abernethy, great part of the Culdee revenues was held by a lay-abbot, whose office was of such mark as to be hereditary in the royal family. The father of 'the gracious Duncan,' and the son of St. Margaret, were Culdee abbots. If a tradition of the 16th c. can be received as authority for what passed in the 12th c., the Culdees of Dunkeld were married, like the priests of the Greek Church, but lived apart from their wives during their period of service at the altar.

Culdees are found holding land at Monifieth, near Dundee, about 1200; and there was a lay-abbot of Monifieth; but there is nothing to show whether he was or was not a Culdee. The Culdees of Muthill, in Strathearn, appear with their prior in charters of the beginning of the 13th c. Nothing more is known of them. Jocelin of Furnes, in his Life of St. Kentigern, or Mungo, written about 1180, relates that the disciples of that saint at Glasgow, in the 6th c., had all things in common, but lived each in his own hut, whence they were called 'solitary clerks,' and more commonly 'Culdees.' They appear as one of the ecclesiastical fraternities of Iona, 1164; and the faint vestiges of a circular building (about 15 ft. in diameter) called 'Cothan Cuildich,' or the Culdee's cell, are still shown in the island.

Only one or two traces of the order have been observed in England. The canons of St. Peter's, at York, were called Culdees in the reign of Æthelstan (924-931); and a charter of Æthelred, 1005, speaks of the canons of the English cathedrals generally as *cultores clerici*. The term is of doubtful import, and the charter itself is not beyond suspicion.

Of the Culdees in Wales, we have only one notice. Giraldus Cambrensis, writing about 1190, describes the

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island of Bardsey, on the coast of Cærnarvon, as inhabited by 'most devout monks, called celibates or Culdees.

Such is a concise recapitulation of all that is certainly known of the Culdees. Before their history was ascertained, opinions were held regarding them which now find few if any supporters among archeologists. It was believed that they were the first British teachers of Christianity; that they came from the East before corruption had yet overspread the church; that they took the Scripture for their sole rule of faith; that they lived under a form of church-government approaching Presbyterian parity; that they rejected prelacy, transubstantiation, the invocation of saints, the veneration of relics, image-worship, and the celibacy of the clergy; and that they kept their simple worship and pure doctrines undefiled to the last, and were suppressed only by force and fraud, when the Rom. Cath. Church triumphed over their older and better creed. For all this, it is now clearly seen that there is no foundation. There is no reason to suppose that the Culdees differed in any material point of faith, discipline, or ritual from the other clergy of the British islands and Western Christendom. Their name was their only peculiarity.

The best account of the Irish Culdees is in a dissertation by the Rev. Dr. Reeves, in the *Proceedings of the Royal Irish Acad.* for 1860. The best account of the Scottish Culdees is in Mr. Grub's *Ecclesiastical History of Scotland*, I, 226-243 (Aberd. 1861). The opinions formerly held regarding the Scottish Culdees will be found in Selden's preface to the *Decem Historiæ Anglicanæ Scriptores*, reprinted in his *Opera*, II, 1129-46; Sir J. Dalrymple's *Collections concerning the Scottish History* (Edin. 1705); and the late Rev. Dr. Jamieson's *Historical Account of the Ancient Culdees* (Edin. 1811). The opinions of these writers are controverted in Bp. Lloyd's *Historical Account of Church Government*, chap. vii.; Goodall's *Preliminary Dissertation*, and Bp. Russell's *Supplement*, prefixed to Keith's *Catalogue of Scottish Bishops* (Edin. 1824); Pinkerton's *Inquiry into the Early History of Scotland*, II, 270-273 (edit. 1814); and Chalmers's *Caledonia*, I, 434-439 (Lond. 1807). On the subject of the C. generally, reference may be made to Lanigan's *Ecclesiastical History of Ireland*, IV.; to the dissertation by J. van Hecke in the *Acta Sanctorum Octobrit*, VIII; and to Skene's *Celtic Scotland*, II.

CUL-DE-SAC, n. *kû'dě-săk'* [F. the bottom of the bag: F. *cul*, bottom—from L. *cūlus*, the fundament: comp. Gael. *cul*, the back]: a street or narrow passage not open at both ends; thence any close, confined place.

CULENBORG, *kó'lén-borċh*, or CULEMBORG, *kó'lēm-borċh*, or KUILENBURG, *koy'lén-bŭrċh*: town of the Netherlands, on the left bank of the river Leck, 12 m. n.w. of Tiel. C. has three divisions, of which the inner town is the oldest and most important. It has a Reformed, a Lutheran, a Rom. Cath. church, a synagogue, and a fine orphan-house. It has steam-boat communication, and is a station of the railway from Utrecht to 's Hertogenbosch. C. has several fac-

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stories. In olden times, the 'Dominion of Culenburg' formed a county; and its independence, both of the Roman empire and the States of Holland, secured it the singular privilege of offering an asylum to fugitives from Holland for debt. Pop. (1880) 6,725; (1890) 7,630.

CULETTE: see **CULLET**.

CULIACAN, *kó-lē-á-kán'*: town of the Mexican confederation, on a river of its own name, which, flowing s.w., enters the Gulf of California near its mouth. It occupies a fertile tract in the dept. of Sinaloa, about 90 m. s.e. of the city of Sinaloa. Pop. estimated 7,000.

CULICIDÆ, n. plu. *kū-līs'ī-dē* [L. *culex*, gen. *culicis*, a gnat, a midge; suf. *-idæ*]: family of dipterous insects, tribe *Nemocera*. The family contains the gnats, the midges, and the mosquitoes.

CULILAWAN BARK, *kū-lī'a-wan bārċ*, or **CLOVE BARK**: valuable aromatic bark, product of the *Cinnamomum Culilawan*, tree of the same genus with the Cinnamon (q.v.) tree; growing in the Molucca Islands. It comes to market in pieces of various length, almost flat, thick, fibrous, covered with a white epidermis, reddish-yellow inside, and has an odor resembling that of nutmeg and cloves, and a pungent taste. It is useful in cases of indigestion, diarrhœa, etc.—Another variety of C. B. is believed to be the produce of *Cinnamomum xanthoneurum*; and a very similar bark, **SINTOC BARK**, is obtained from *C. Sintoc*.

CULINARY, a. *kū'li-nēr-ī* [F. *culinaire*, culinary—from L. *culīna*, a kitchen]: pertaining to the kitchen, or the art of cookery; used in the kitchen.

CULL, v. *kŭl* [F. *cueillir*, to pluck or gather—from OF. *coillir* and *cuillir*, to cull—from L. *colligĕrĕ*, to bind together, to collect—from *legĕrĕ*, to gather]: to pick out; to gather; to select from many. **CUL'LING**, imp. **CUL'LINGS**, n. plu. selections from a mass; refuse. **CULLED**, pp. *kŭld*. **CUL'LER**, n. one who. **CUL'LEERS**, n. plu. *-lĕrz*, the worst of a flock culled out for disposal.

CULLEN, *kŭl'en*: royal, parliamentary, and municipal burgh and seaport, in the north of Banffshire, Scotland, 12 m. w.n.w. of Banff. It is on the w. slope of an eminence overlooking the sea, at the mouth of the Cullen Burn. A third of the inhabitants of the town are engaged in the cod, ling, haddock, skate, herring, and salmon fisheries. The chief exports are cured fish, oats, potatoes. Some linen is made. The Marquis of Montrose burned C. 1645. Pop. (1881) 2,033; (1891) 2,100.

CULLEN, *kŭl'en*, **PAUL**, D.D., Cardinal: 1803, Apr. 27—1878, Oct. 24; b. Dublin. He was educated in the College of the Propaganda at Rome, and became prof. of Hebrew there after ordination, and then rector of the Irish College, and held the latter office many years. As a foreign rector he was allowed to remain in the city during the exciting days of 1848, and at one time saved the Propaganda and Irish colleges from destruction by placing them under the

American flag. He was appointed Rom. Cath. bp. of Armagh and Primate of all Ireland, 1850, transferred to Dublin 1851, and created cardinal 1866, June. He was the first Irish bp. raised to the cardinalate since the Reformation, and the first cardinal educated in the College of the Propaganda. In the last Vatican Council he advocated the dogma of papal infallibility.

CULLEN, WILLIAM, M.D.: 1710, Apr. 15—1790, Feb. 5; b. Hamilton, Lanarkshire, Scotland: physician, celebrated professor of medicine in the universities of Edinburgh and Glasgow. His father was factor to the Duke of Hamilton, and had a little landed property in the parish of Bothwell; he appears to have brought up two of his sons to the learned professions, and to have himself received a legal education. William began medical studies in Glasgow by an apprenticeship, and by attending literary classes in the university. In 1729, C. was appointed surgeon to a merchant-ship; and till 1734, was actively engaged in various situations. He then spent two winter-sessions in Edinburgh in the regular study of medicine, and was one of the founders of the Royal Medical Soc., composed of students. In 1736, he commenced practice at Hamilton, and soon was largely employed, having the patronage of the Duke of Hamilton. Soon afterward, William Hunter (see HUNTER, JOHN and WILLIAM) passed three years under Cullen's roof, the beginning of a life-long friendship, though after Hunter went to London, it is probable that they never again met. In 1740, C. took the degree Doctor of Medicine in the univ. of Glasgow; in 1741, he entered into partnership with a surgeon, with the view of confining himself to a physician's practice; in 1744, in response to an invitation, he removed to Glasgow, where he soon began a course of lectures. It seems certain that to C. Glasgow Univ. owes the real commencement of its medical school; for in one or two years succeeding 1746, he made arrangements with the several professors to lecture on the theory and practice of physic, on botany and the materia medica, and finally on chemistry, these being the first medical lectures in the university. In botany, C. seems to have lectured in Latin; but in the other departments in English, an innovation, which permitted a familiar style not before in use.

He was supported by the university by votes amounting to £136 for the chemical laboratory, and £20 annually for keeping it in repair. In 1751, C. was placed, through the influence of the Duke of Argyle, for the first time in his rightful position as a prof. in the univ. of Glasgow. After several attempts by Lord Kames, through four years, to attract the rising and ambitious Glasgow professor to the metropolis, C. was elected by the town-council of Edinburgh joint prof. of chemistry. In 1757, he added to his duties the teaching of Clinical Medicine in the Royal Infirmary. Probably, the fact of his having to give bedside instruction at this period opposed itself to the natural tendency of his mind to give everything a systematic form, and weeded his method of practice of an immense quantity

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of the scholastic rubbish which made up so much of the medical learning of that age. In 1760 he undertook the lectures on *materia medica* with such acceptance that his lectures were surreptitiously printed from the notes of a pupil, and had considerable circulation. In 1766, C. was placed in the chair of Institutes of Medicine; and Black, now the greatest chemical discoverer of the age, was brought to Edinburgh from Glasgow to fill C.'s place as prof. of chemistry. In 1773, C. was at last transferred to the chair of the practice of physic, the duties of which he had for some years performed in part.

In 1778, C. became the proprietor of Ormiston Hill, a pretty suburban estate about 8 m.w. of Edinburgh, where he passed in pleasing rural occupations as much time as his professional duties would allow. Here he died, having nearly completed his 79th year, and having been actively engaged in teaching and consulting practice till within a few months of his death. His most important works are, *First Lines of the Practice of Physic* (Edin. 1777); *Synopsis Nosologiæ Methodicæ*, 1785; *Institutions of Medicine*, 1777; *A Treatise of the Materia Medica*, 1789. Their characteristics are great clearness of expression, with remarkable soundness of judgment and common sense, rather than striking originality. Amid learned medical farrago, of his times, he sought his way toward the truth with remarkable impartiality, and candor. His fame as one of the greatest of teachers has survived the memory of his professional success. His writings have been collected, in 2 vols. 8vo, by Dr. John Thomson (Edin. 1827), by whom also a Life was commenced (first vol. published 1832, second vol. by other hands, 1859).

CULLENDER, n. *kŭl'lēn-dēr* [L. *colans*, straining; *cōlum*, a strainer: F. *couler*, to flow: Sp. *colar*, to filter]: a colander; a strainer.

CULLERA, *kŭl-yŭ'rá*: fortified town of Spain, and port on the Mediterranean, 23 m. s.s.e. of the town of Valencia. It is near a very fertile district, and the inhabitants are engaged in agriculture, cattle-rearing, fishing, and the production of oil and wine. Pop. (1877) 11,050.

CULLET, or CULETTE, or CULET, n. *kŭl'èt* [F. *cueillette*, a gathering, a mixed cargo: or from CULL, to gather]. broken glass brought together for being remelted with fresh material: see CULL.

CULLION, n. *kul'yŭn* [see CULLY]: a mean wretch; a cully; a scoundrel. CUL'LIONLY, a. -lŭ, having the qualities of a cullion; base.

CULLIS, n. *kŭl'is*, or COULIS, n. *kó'lis* [F. *coulis*, strained juice of meat, gravy, jelly]: a kind of rich brown gravy, for enriching, thickening, and coloring certain soups and sauces; broth of boiled meat strained.

CULLODEN, *kŭl-lŏ'dén*, or DRUMMO'SIE MOOR: desolate level tableland, now partly cultivated, in the n.e. of Inverness-shire, six m. e.n.e. of Inverness, near the Moray Firth; is memorable as the scene of the total defeat, 1746,

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Apr. 16, of the Highland army under Prince Charles Stuart by the royal troops under the Duke of Cumberland, and the extinction of the hopes of the House of Stuart to regain the English crown. Since 1881, a cairn, 20 ft. in height, with an inscription, marks the spot where the battle was fiercest, and where many of the slain lie buried.

CULLY, n. *kŭl'li*, also CUL'LION, n. *-yŭn* [OF. *couille*, a testicle: OF. *couillon*; Sp. *colion*, a vile fellow, a dastard—from L. *culĕūs*, a bag, the scrotum: comp. Gael. *cuilean*, a whelp]: the entertainer or companion of a courtesan; a soft-headed fellow; a man easily deceived or imposed upon: V. to make a tool of; to impose upon; to dupe; to trick. CUL'LYING, imp. *-lĭ-ing*. CUL'LIED, pp. *-lĭd*. CUL'LYISM, n. *-ĭzm*. CUL'LIBIL'ITY, n. *-bĭl'ĭtĭ*, easiness of being gulled.

CULM, n. *kŭlm* [L. *culmus*, the stalk of corn: It. *culmo*]: the stalk or stem of corn or grasses, usually hollow and jointed. CULMIFEROUS, a. *kŭl-mĭf'ĕr-ŭs* [L. *fero*, I bear]: having smooth jointed stalks, and their seeds contained in chaffy husks, as in wheat, oats, etc.: see GRASSES.

CULM, n. *kŭlm* [W. *cwlwm*, culm: OE. *colmie*, black, foul]: an impure shaly kind of coal or anthracite shale; coom, which see: see also ANTHRACITE. CULMIFEROUS, a. *-mĭf'ĕr-ŭs* [L. *fero*, I bear]: abounding in culm. CULM MEASURES, in *geol.*, the anthracite shales of North Devon.

CULMINATE, v. *kŭl'mĭ-nāt* [mid. L. *culmĭnātus*, culminated—from L. *culmen*, a top, a summit: F. *culmĭner*]: to reach the highest point; to be vertical; to come to the meridian; to top or crown. CUL'MINA'TING, imp.: ADJ. attaining the highest point. CUL'MINA'TED, pp. CULMINA'TION, n. *-nā'shŭn* [F.—L.]: crown; top; the most brilliant or highest point in the progress of any person or time; in *astronomy*, transit or passage of a star or planet across the meridian. The star is then at the highest point (*culmen*) of its course for the day. The sun culminates at midday, or 12 o'clock, apparent solar time—which seldom agrees exactly with mean time, as shown by a watch or clock. The full moon culminates at midnight. The time of C. of a fixed star is always exactly midway between the times of its rising and setting; in the case of the sun, moon, and planets, it is only nearly so.

CULNA, *kŭl'na*: town of Bengal, 47 m. n. of Calcutta, on the right bank of the Hooghly. The town contains a vast number of temples, is a station of the Free Church (Scotland) Mission, and has a flourishing English school. It is a place of considerable trade, rice, grain, silk, and cotton being the chief articles of commerce. C. is now frequently spelt *Kālnā*. Pop. near 30,000.

CULPABLE, a. *kŭl'pā-bl* [F. *coupable*—from L. *culpā-bĭlis*—from L. *culpa*, a fault: It. *colpa*; OF. *coulpe*, a fault]: deserving of blame or censure; sinful; criminal. CUL'PABLY, ad. *-blĭ*, in a faulty manner. CUL'PABIL'ITY, n. *-bĭl'ĭtĭ*, or CUL'PABLENESS, n. *-bl-nĕs*, the quality or condition of being blameworthy; blame. CULPA, *-pā* [L.],

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fault; crime; blame; term in Roman law, whose three distinctions of degree have been adopted in the law of Scotland: *C. lata*, gross carelessness or omission, regarded as equivalent to dole; *C. levis*, degree of negligence into which a person attentive to his own affairs may be supposed occasionally to fall; and *C. levissima*, still more slight degree of negligence in some degree incident to human nature, in even the most prudent and sharp-sighted. Where a contract contemplates the mutual benefit of both parties, the middle degree of diligence is all that either is bound to exercise, and the neglect of this is *C. levis*, or *C.* simply. Where one party only is benefited, he is bound to exercise the utmost diligence, the neglect of which is *C. levissima*, while the other party has done enough if he avoids *C. lata*, or gross and excessive negligence.

CULPABLE HOMICIDE see HOMICIDE: MURDER.

CULPEPER, *kŭl'pĕp-ĕr*, JOHN: b. England: surveyor. He emigrated to the southern or Clarendon colony and thence to the Carolina provinces, where he followed his profession, and became a political leader. In 1678 he headed a popular uprising in the northern or Albemarle colony which resulted in the overthrow of the pres. and deputies of the proprietors and the establishment of a new govt. He was then sent to England on a political mission, was there indicted for treason and acquitted, and on his return applied himself to his profession and laid out the city of Charleston, 1680.

CULPEPER or COLEPEPER, THOMAS, Lord: d. 1719; b. England: colonial gov. of Va. King Charles II. granted him and the Earl of Arlington the entire territory of Va. for 31 years, 1673; he purchased his associate's rights 1675; was appointed a plantation commissioner 1675, July, and about the same time gov. for life; came to the colony 1680; made two trips to England without the royal permission; was charged with official corruption and violation of instructions, and deprived of his commission by legal procedure, 1683.

CULPRIT, n. *kŭl'prĭt* [L. *culpa*, a fault; *rĕātus*, the condition of an accused person: old law L. *culpātus*, applied to person accused]: prisoner accused of a crime but not tried; one convicted of a crime is called a criminal or convict; [these discriminations are not invariably observed in common use even of good writers]. *Note*.—Skeat derives from L. *culpātus*, and says that the *r* has been inserted as a corruption.—SYN.: malefactor; felon; convict.

CULROSS, *kŭl-rŏs'*: parliamentary and municipal burgh and seaport in a detached part of Perthshire, Scotland: on the n. shore of the Firth of Forth, 6 m. w. of Dunfermline, 22 n.n.w. of Edinburgh. It is a place of great antiquity. As early as the 6th c., it was the seat of the monastery of St. Serf, who afterward became the patron saint of the town, where his yearly festival was kept till about the close of the 18th c. Ængus the Keldee (Culdee), an Irish martyrologist, who wrote about 800, describes C. as lying in Strathearn, between the Ochils and the Sea of Gindan,

CULT—CULTIVATED PLANTS.

i.e., the Firth of Forth. It stands on the face of a hill rising from the shore. The parish church preserves some remains of the conventual church of a Cistercian abbey, founded 1217, on a commanding site in the higher part of the town. Close beside it is the fine old residence of C. Abbey, founded by the Bruces of Carnock and Kinloss about the end of the 16th c., remodelled about the middle of the 17th c., and toward the end of the 18th occupied by the father of the late Lord Dundonald. At the e. end of the town are the ruins of a chapel, built about the beginning of the 16th c., in honor of St. Kentigern or Mungo, said to have been born here about 500, and to have been here educated by St. Serf. C. has various charitable institutions, and does some damask weaving. In the 16th e. it was famous for the manufacture of salt and the export of coal. Its once extensive shipping-traffic is now gone. From James VI.'s time, till the beginning of this c., coal-mines were worked here far under the Firth of Forth. See Beveridge's *Culross* (1885). Pop. (1881) 373.

CULT, n. *kŭlt*, also **CULTUS**, n. *kŭl'tŭs* [F. *culte*—from L. *cultus*, worship]: a particular form of worship or religious belief.

CULTCH, n. *kŭlch*, also **CUTCH**, n. *kŭch*: the spawn of oysters; the objects on which the spawn or spat is adhering.

CULTIROSTRAL, a. *kŭl'ti-rŏs'trāl* [L. *culter*, a plow-share; *rostrum*, a beak]: pertaining to the **CUL'TIROS'TRES**, *-trēz*, an order of birds having bills shaped like the coulter of a plow, or like a knife, as the heron and the crane.

CULTIVATE, v. *kŭl'ti-vāt* [mid. L. *cultivātus*, cultivated—from L. *cultus*, tilled: It. *cultivare*; F. *cultiver*, to cultivate]: to till; to prepare the ground for the reception of seed; to foster; to improve, as the mind; to labor to increase; to raise, as corn. **CUL'TIVATING**, imp. **CUL'TIVATED**, pp. **CUL'TIVATOR**, n. *-tēr*, one who; a sort of harrow: see **GRUBBER**. **CUL'TIVA'TABLE**, a. *-vā'tā-bl*, also **CUL'TIVABLE**, a. *-vā-bl*, capable of being cultivated or tilled. **CUL'TIVA'TION**, n. *-vā'shŭn*, tillage of land; culture; civilization; refinement; husbandry.

CULTIVATED PLANTS: those plants which, either for their usefulness or their beauty, and not merely for curiosity, have been to considerable extent cultivated by man. They are of nat. orders widely different, and scattered through almost all parts of the vegetable kingdom. The prevalence of particular qualities in particular nat. orders, indeed, assigns groups of C. P. to some of them, as the *Cerealĭa* or corn-plants among grasses; but with these are botanically associated other species—usually far more numerous—to which no great value has ever been attached. It may be that, in some instances, the original preference of certain species was accidental, and that their present superiority over certain others is owing merely to the improvements effected by cultivation; but we are no more entitled to assume that this has been ordinarily the case, than that man has in his selection exhausted, or nearly exhausted, the resources of nature. Some plants are known

CULTIVATED PLANTS.

to have been cultivated from the most remote historic ages; some have but recently become the objects of human care, which yet are deservedly esteemed; and, in some instances—e.g., sea kale—these have not been introduced from regions newly explored, but are natives of the very countries which were seats of ancient civilization. Probably, in the earliest ages, plants useful for food alone were cultivated, and of these only a few kinds, as is still the case among savage tribes (see **FOOD**); it may be doubted whether plants yielding fibre for clothing and cordage (see **FIBRE**), or plants from which alcoholic beverages or narcotics could be procured, were most likely next to engage attention (see **FERMENTED LIQUORS: NARCOTICS**). Other important classes of C. P. are those yielding tea, coffee, cocoa, and other similar beverages, containing *Caffeine* (q.v.), or some analogous principle; those yielding Dye-stuffs (q.v.); those yielding medicines (see **OFFICIAL PLANTS**); those yielding fixed oils (see **OILS**), some of which are to be reckoned among plants valuable for food; those yielding Fodder (q.v.) for cattle; those yielding timber (see **TIMBER TREES**); those employed for Hedges (q.v.), etc. There are also many miscellaneous useful products of plants, and useful applications. Among such products are resins, turpentine, essential oils, gum, caoutchouc, guttapercha, bark for tanning, etc.; among useful applications, the thatching of roofs, basket-making, and the supply of food for useful insects, which leads to the cultivation of the white mulberry as the food of the silkworm, and of the cochineal cactus or nopal as the food of the cochineal insect. Many plants highly valued for their usefulness are still scarcely or not at all cultivated; this is the case particularly with many that yield medicines, for which the whole demand is not too great to be easily supplied by the plants growing wild, and with timber trees, the plantation of which is needed only in countries of very advanced civilization. The number of C. P. is continually increasing. The cultivation of flowers and ornamental shrubs and trees, unquestionably less ancient than that of some plants most necessary for urgent wants, nevertheless dates from remote antiquity, and has always existed in every country entitled in any measure to be called civilized. Some C. P. have from a very early period been very widely diffused, e.g. particularly some of the corn plants; others have been confined to particular regions through no necessity of climatic adaptation, but rather from lack of intercourse among nations. Thus, some of the finest ornaments of American and European greenhouses and gardens, recently introduced, have been diligently cultivated from time immemorial in China and Japan, in which countries many useful plants also are cultivated still almost unknown in other parts of the world. The cultivation of useful aquatic plants is practiced in China to a degree unapproached in any other country.

The changes produced in plants by cultivation present an interesting and difficult subject to the student of vegetable physiology. Increase of luxuriance and size is a result which might have been expected from abundant nutriment

and favorable circumstances of growth; but the determination of the strength of the plant in its vegetation to particular parts, and their greater proportionate increase, is a more remarkable phenomenon though of common occurrence, as is also the considerable modification of juices and qualities. To these effects of cultivation, perpetuated in the progeny of the plants, and increased from one generation to another, are due many of the most useful varieties of cultivated plants. Cultivated cabbages, turnips, carrots, etc., differ very much from the wild plants of the same species; for instance, there is little eatable or nutritious in the root of a wild turnip, and the acridity occasionally to be observed even under cultivation exists in it to a much greater degree. Wild celery is poisonous, or almost so. How far the effects of cultivation can be extended, is a question not yet decided in general, nor with reference to particular species.

CULTIVATION, in Agriculture: all operations for preparing the soil for those crops which man selects for his use. The spade, the hoe, and the plow, have been the primary implements of C. among all nations as far back as their civilization can be traced. All these effect much the same end. By their means the soil is stirred and inverted, which keeps under the vegetation that is supplanted, and loosens the soil to admit of the roots of the sown plants to run through it. The harrow or rake, on the other hand, is employed to smooth the surface and cover the seed. To allow of the C. of the crops when they are growing, in many cases the seeds are planted or sown in rows. Cereals, for instance, are, with this view, often sown with a *drill* in rows from six to nine inches apart; and the narrow rows are either cultivated by the *hand* or *horse hoe*. Again, turnips, potatoes, and other green crops are sown at wider intervals, from 24 to 30 inches, and are cultivated during their growth by horse hoes of various descriptions. For the implements used in C., see their titles; for peculiarities in the cultivation of different crops, see their titles.

Generally, the soil, in the first place, should be as completely inverted as possible, since it is important to smother or bury the surface-plants, and permit them to decay within the soil and yield food for the plants to be sown. In the second place, it should be rendered as loose and comminuted as possible; for earth in this state both allows an excess of water to pass through it more easily, and retains a larger supply within it for the wants of vegetation when the weather is dry. Land that is tilled in autumn may be left open, rough, and cloddy, as the frost of winter will loosen and pulverize it. In a dry and warm climate, the desired state of the soil is secured by abundant plowing, rolling, and other operations. In a wet and moist climate, these must be more sparingly resorted to, as a moderately rough mold facilitates the draining away of excessive rains, and prevents the soil from becoming consolidated by such excess.

CULTRATE, a. *kāl'trāt*, also CULTRATED, a. [L. *cultrātus*, knife-formed, provided with a coultter—from *culter*]

CULTRIROSTRĒS—CUMÆ.

a knife]: also CUL'TRIFORM, a. *-trī-jāwrm* [L. *forma*, a shape]: shaped like a pruning-knife.

CULTRIROSTRĒS, *kŭl-trī-rōs'trēs* [L. knife-billed or plowshare-billed]: tribe of birds of the order *Grallatores*; distinguished by a long, thick, stout, and generally pointed and trenchant bill, and containing cranes, herons, bitterns, storks, adjutants, etc., (q.v.).

CULTURE, n. *kŭl'tŭr*, also *-chŭr* [F. *culture*—from L. *cultūra*, culture, cultivation]: the act of preparing the earth for seed; cultivation; any labor or means employed for improvement; mental training; refinement by education: V. to cultivate or improve. CUL'TURING, imp. CUL'TURED, pp. *-tŭrd*: ADJ. improved; refined by mental training. CUL'TURELESS, a. having no culture.

CULVER, n. *kŭl'ver* [AS. *culfre*, a pigeon]: a pigeon; a wood-pigeon. CULVER-TAILED, dove-tailed. CULVER-HOUSE, a dove-cote; a pigeon-house.

CULVERIN, n. *kŭl'ver-in* [F. *couleuvrine*—from *couleuvre*, a snake—from L. *colŭbra*, an adder, a serpent]: among earlier forms of cannon, a very long gun; generally an 18-pounder, weighing 50 cwt.; the *demi-C.* was a 9-pounder, weighing 30 cwt. A. C. of especially large dimensions is still in existence at Dover Castle, where it is known by the name of Queen Elizabeth's Pocket Pistol.

CULVERT, n. *kŭl'vert* [OF. *coulouëre*, a channel, a gutter—from F. *couler*; OF. *coler*, to run, to flow—from L. *colārē*, to filter, to run]: a passage or arched way usually of masonry, for conveyance of water under a road or canal.

CUL'VERT: the name given to an arched channel of masonry for the conveyance of water underground.

CUMÆ, *kŭ'mē*: ancient city on the coast of Campania, founded jointly by colonists from Chalcis in Eubœa, and from Cŷmæ in Asia Minor. According to Strabo, it was the earliest of all the Greek settlements either in Italy or Sicily, but the precise date of its foundation is a matter of dispute. It soon attained wealth and power, built several harbors or port-towns of its own, kept a moderately large fleet, extended its influence over the native tribes of the neighboring territories, planted a colony at Neapolis (Naples), and for 200 years (B.C. 700–500) was indisputably the most important and civilized city in s. Italy. Subsequently, it was repeatedly but unsuccessfully attacked by the Etruscans and Umbrians. In B.C. 474, its ally, Hieron, king of Syracuse, defeated the combined fleets of the Etruscans and Carthaginians, who had attacked it by sea. Yet there can be no doubt that these conflicts both lessened its resources and weakened its influence, for B.C. 420, the Samnites conquered the city, murdered or enslaved most of the citizens, and forcibly married their wives and daughters. A Samnite colony was now established in C., which rapidly degenerated into a second-rate Campanian town. In B.C. 338, it was admitted to the Roman franchise, and from this period steadily adhered to the fortunes of Rome. In the second Punic war, Hannibal tried to capture it, but

was repulsed by Sempronius Gracchus. Toward the close of the republic, it became the municipal cap. of the district in which the Roman nobles had their villas and sea-coast residences. It continued as a 'quiet' place to the close of the Roman empire, but re-assumed momentary importance during the wars of Belisarius and Narses. Its strong fortress, garrisoned by the Goths, was the last place in Italy that held out against the Byzantine army. Few remains of the ancient city exist.—C. is famous as the residence of the Sibyl (q.v.), whose cave—a vast subterranean grotto hewn out of the e. side of the rock on which stood the citadel—is described by Justin Martyr, who visited it. It was destroyed by Narses in a vain attempt to undermine the fortress.

CUMÆAN, a. *kū-mē'ăn*, pertaining to CUMÆ, *kū'mē* (q.v.).

CUMANA, *kô-mâ-nâ'*: department of Venezuela, S. America; most easterly section of the n. coast of the republic, touching the Orinoco on the s., and meeting Caracas on the west. Besides the capital, C., it comprises the city of Barcelona, and the towns of Cariaco, Carapano, Aragua, and El Pao.

CUMANA': oldest European city in the new world, built by Diego Castellon, 1521, and originally named New Toledo. It is in the province of C., in Venezuela, S. America, at the mouth of the Manzanares, on the Gulf of Cariaco, a long and narrow arm of the Caribbean Sea; lat. 10° 30' n., and long. 64° 15' w. Though it was almost entirely destroyed by an earthquake, 1853, it was soon rebuilt. It has a good roadstead, commanded by a fort on an adjacent height. It has but few edifices of any note, for the houses, in order to guard against earthquake, are generally low built. It has considerable export trade in cattle, smoked meat, salt-fish, cocoa, and other provisions. Pop. (1891) with suburbs, 12,057.

CUMANIA, GREAT, and LITTLE: see KUMANIA.

CUMARIN, n. *kū'mă-rĭn* [from *cumin*, which see]: an aromatic body found in woodruff and other plants.

CUMBER, v. *kūm'bér* [Dut. *komber*, loss, difficulty: Ger. *kummer*, trouble, rubbish: OF. *combrer*, to hinder—from mid. L. *cumbrus*, a heap: F. *encombre*, hindrance, impediment: comp. Gael. *cumraich*, to cumber, to impede]: to heap up or place so as to cause a hindrance; to load; to crowd; to retard or stop; to trouble or perplex: N. hindrance; obstruction; perplexity; difficulty. CUM'BERING, imp. CUM'BERED, pp. *-bêrd*. CUM'BERSOME, a. *-sŭm*, or CUM'BROUS, a. *-brŭs*, troublesome; burdensome; unwieldy; not easily borne. CUM'BRANCE, n. *-brăns*, a burden; hindrance. CUM'BERSOMELY, ad. *-bêr-sŭm-lĭ*. CUM'BERSOMENESS, n. the quality of being cumbrous. CUM'BROUSLY, ad. *-brŭs-lĭ*. CUM'BROUSNESS, n. the quality of being cumbrous. *Note*.—Skeat says CUMBER is corrupted from L. *cumŭlus*, a heap, a mass, by the change of *l* into *r*, and the insertion of a *b*.

CUMBERLAND.

CUMBERLAND, *kūm'bēr-land*: north-westmost county of England, bounded n. by Scotland and the Solway Firth, w by the Irish Sea, s. by Lancashire, c. by Westmoreland, Durham, and Northumberland. It is 11th in size of the English counties; greatest length, 74 m.; greatest average breadth, 22; 75 m. of coast; area, 1,523 sq. m.; two-thirds being cultivated, and one-third in mountain and lake. The surface is mountainous in the s.w. and e.; the middle consists of hills, valleys, and elevated ridges; and the n. and n.w. districts, including the vale of Carlisle, are low, flat, or gently undulated. The mountains in the s.w. are high, rugged, and sterile, with deep and narrow valleys, lakes, rivers, waterfalls, and woodlands. The chief mountains are Sca Fell Pike, 3,210 ft.; Sca Fell, 3,162; Helvellyn, 3,118; Skiddaw, 3,054. From the latter are seen the German Ocean and the Irish Sea. The Pennine chain, the great backbone of the north of England, skirts the n.e. border of C., and rises in Cross Fell, 2,929 ft. C. has 15 lakes, the largest, Ulleswater, 9 miles by 1. Six of the chief waterfalls are 60 to 156 ft. high. The chief rivers are the Eden, running 35 m. n.w. into the Solway Firth; the Esk, running s. into the same; and the Derwent, which collects the water of six lakes and several tarns, and runs 33 m. n.w. and n. into the Irish Sea. The great west or Carlisle and Lancaster railway route from Edinburgh to London, crosses the n.e. of Cumberland.

The Lake district, or nearly the s.w. half of C., consists of Silurian slates, with protrusions of granite and trap rocks, and with new red sandstone along the coast s. of St. Bees Head. In the n. is a semicircular strip of carboniferous limestone; then follow strips of old strata and Permian rocks; then the new red sandstone plain of Carlisle, with carboniferous limestone on the n.e., including a clap-dike 30 m. long, parallel to and on the e. side of the Eden, and crossing to the w. near Ainstable. C. abounds in mineral wealth—silver, copper, lead, iron, plumbago, gypsum, limestone, coal, slates, marbles, marl, and several of the more rare minerals.

In the mountainous parts, the climate is cold, wet, and variable, especially from July to Oct.; on the coast, it is mild. There is a fall of 50 inches of rain annually at Whitehaven, and of 68 at Keswick; while at some places among the mountains the fall sometimes reaches 100 inches. Half of the cultivated soil consists of dry loam. Much of the subsoil is wet clay. The chief crops are wheat, barley, oats, turnips, and potatoes. There are many small dairies. Many sheep and cattle are reared in the mountains. The estates are generally small, and farmed by the owners, or held under the lords of the manors by customary tenure. Many of the small or peasant proprietors have had their lands in their families for centuries, and have a high spirit of independence. There are manufactures of woollens—much being domestic—cottons, linens, earthenware, and glass. C. is divided into five wards or hundreds, 104 parishes, and nine poor-law unions. The chief towns are Carlisle, Cockermouth, Whitehaven, Workington, Mary-

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port, Wigton, Penrith, Keswick, Egremont. Under the Distribution of Seats Act (1885), C. returns six members to parliament—four for the four divisions of the county, one for Carlisle, and one for Whitehaven. C. formed part of Cumbria (q.v.). Many Roman relics have been found, such as altars, inscriptions, coins, instruments, utensils. During Saxon times, it was under Danish law. Henry III. united it to England. For three centuries before the union of England and Scotland, C. was the constant scene of war and devastation, from incursions of the English and Scotch into this debatable tract between the two kingdoms. It was again devastated in the civil wars of the 17th c., and in 1715 and 45. C. had formerly several monasteries and hospitals; and on the borders, many towers or peel houses; and it has still some old Norman and Gothic churches.—Pop. (1871) 220,253; (1881) 250,630; (1901) 266,924.

CUMBERLAND: city, cap. of Alleghany co., Md., on the Potomac river and the Baltimore and Ohio railroad, and at the head of navigation of the Chesapeake and Ohio canal; 150 m. s. of Pittsburg, Penn., and 178 m. w. by n. of Baltimore; second city in the state in commerce and population. It is a terminus of the C. and Penn. railroad, extending into W. Va., and of the Pittsburg Washington and Baltimore railroad; is on the e. edge of the noted C. coal region which stretches w. to the Ohio river; and has numerous mines of semi-bituminous coal and valuable iron ores in its immediate vicinity which provide the chief traffic of the canal. The business interests of C. embrace rolling mills for bars and rails, factories for other kinds of railroad iron and the manufacture of steel, foundries, machine shops, and manufactories of cement, flour, leather, and brick. The city is supplied with water on the Holly plan, and contains 15 churches, 4 banks, a Rom. Cath. academy and convent, a Capuchin house, and 3 weekly newspapers. Pop. (1900) 17,128.

CUMBERLAND, RICHARD: 1732, Feb. 19–1811; b. in the lodge of Trinity College, Cambridge: dramatic writer and essayist. He was the great-grandson of the bp. of Peterborough, and grandson, by the mother's side, of Dr. Richard Bentley. He was placed at the public schools of Bury St. Edmunds and Westminster, and at the age of 14 was entered at Trinity College, Cambridge, where he took his degree in his 18th year, and two years later was elected fellow. Having been appointed private sec. to the Earl of Halifax, he gave up his intention of entering the priesthood, and passing through several subordinate offices, was appointed sec. to the board of trade, holding that office till 1782, when the board was suppressed. Having obtained a compensation allowance, C. retired to Tunbridge Wells. Here he applied himself to literature, and wrote farces, tragedies, comedies, pamphlets, essays, and novels. Many of his comedies were successful at the time of their appearance, though they have not kept possession of the stage. C. is best known as essayist, and translator from the Greek poets. His memoirs were published 1806.

CUMBERLAND—CUMBERLAND MOUNTAINS,

CUMBERLAND, RICHARD, D.D.: 1632, July 13—1718, Oct. 9; b. London. Educated at St. Paul's School and at Cambridge, he was appointed to the rectory of Brampton, Northamptonshire, 1658; in 1667, to the living of All Hallows, Stamford; in 1691, to the bishopric of Peterborough. C. was a man of great acquirements and piety. He was the author of several works, but he is now remembered chiefly on account of his *Inquiry into the Laws of Nature*, issued in reply to Hobbes; and his *Essay on Jewish Weights and Measures*. His reply to Hobbes is well reasoned and instructive, but seems to miss the proper line of attack. Much stronger replies have since been developed. As an instance of his insatiable thirst for knowledge, it is mentioned that he learned Coptic after the age of 83.

CUMBERLAND, WILLIAM AUGUSTUS, Duke of. 1721-65; second son of George II. He adopted a military career, was wounded at Dettingen, 1743, and defeated at Fontenoy by Marshal Saxe, 1745. In 1746, he defeated the Young Pretender at Culloden. In 1747, he was again defeated by Saxe (at Lafeldt), and in 1757 had to surrender and disarm his army at Klöster-Zeven. On his return to England, he felt compelled to resign his commissions. See *Life* (1776) and *General Orders of 1745-47* (1876). The latter seems to show that his severity after Culloden has been exaggerated.

CUMBERLAND GAP: pass through the Cumberland Mountains, at the s.e. corner of Ky., between Ky. and Tenn.; important as a strategic position, during the war of secession.

CUMBERLAND ISLAND: large island with Davis Strait on the e., Hudson's Bay on the w., Hudson's Strait on the s., and on the w. a small strait separating it from Cockburn Island.

CUMBERLAND MOUNTAINS: branch of the Appalachian chain, forming a portion of the boundary between Va. and Ky., extends in a s.w. direction through Tenn. dividing the state into E. Tenn. and Middle Tenn., and terminates in n.e. Ala. and n.w. Ga.; general elevation 2,000 ft., greatest width 50 m.; area 5,100 sq. m. The greater part of the range is in Tenn., where it is distinguished by a broad, level table-land from which several ridges rise to an additional height of 800 ft. The climate of this plateau is equable, and its soil is very rich. The most important of the mineral resources of Tenn. and Ky. are the coal and iron deposits in the C. M. These are very numerous, very large, and very productive. The coal is bituminous in Tenn. and Ky., and some cannel resembling the English species is found in the latter state. Chestnut, white ash, oak, pine, hickory, and maple grow in abundance in all parts of the plateau.

CUMBERLAND PRESBYTERIANS.

CUMBERLAND PRESBYTERIANS: important denomination of Christians, the founders of which had been in regular connection with the General Assembly of the Presb. Church in the United States. In the first years of this century a religious movement began in Logan co. Ky. (under the preaching of the Rev. James McGready), which spread rapidly through the state, and into the surrounding states. Besides increased attention to the usual seasons and ordinary mode of worship, camp meetings, held during the summer, were attended by thousands of persons who engaged for several successive days and nights in almost continuous religious exercises. The excitement became very great, and strange irregularities occurred. Yet many lasting and wide results of good were reached, which continue to attest the genuineness and power of the revival. It checked infidelity and established Christian faith among the toiling and uncultured settlers of the great west. As the harvest increased the laborers were found to be few. In the continuous meetings the great demand for preaching, exhortation, and prayer thrust forward young, inexperienced, and uneducated persons, many of whom, displaying natural ability combined with spiritual fervor, attained success and devoted themselves permanently to the work of preaching. As the number of congregations increased it was impossible to supply them with regularly trained and ordained ministers. Consequently, some of the class just mentioned assumed the office of public exhorters and teachers. Some also of the older and more experienced ministers, impelled by the evident necessity of the case, selected young men of talent and piety, and encouraged them to pursue a short course of preparation for the ministry. When these applied to the presbytery of Transylvania to be licensed, some of its members found fault not only with their imperfect training, but also with what were called their unorthodox theological views. They were, however, licensed; a majority of the presbytery thinking it necessary, and hoping that they would increase in sound knowledge. This door, having been opened, could not be closed. Candidate after candidate, of this character, was licensed and subsequently ordained. The presbytery of Transylvania was divided; the new body, named the presbytery of Cumberland, consisting chiefly of those who favored the new plans. Candidates were now freely licensed and ordained on their declaration that they adopted the Confession of Faith only so far as they considered it to be in harmony with the Word of God. Yet, so far as can be judged from subsequent events, their exceptions were limited to a single phase of doctrine.

These proceedings having been disapproved by the synod of Kentucky, and by the general assembly, the synod dissolved the presbytery of Cumberland and reattached its approved numbers to the presbytery of Transylvania. The Cumberland Presbytery regarded the proceedings against them as unconstitutional; but, influenced by a desire for peace, and by the hope that a reconciliation

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might be effected, refraining from all strictly presbyterian acts, formed themselves into a council in order to retain their congregations and carry on their work. After continuing this course for five years without attaining the hoped-for result, they, in 1810, reorganized the presbytery of Cumberland as an independent body. In their own locality they were naturally called Cumberland Presbyterians; and in all their subsequent progress they have retained the name.

The new presbytery published a declaration of their theological opinions. These they called Calvinistic, except that they modified the statement of the doctrine of predestination so as to free it from the 'idea of fatality' which they thought the Westminster Confession involved. They professed to hold: '1. That there are no *eternal* reprobates, 2. That Christ died, not for a part only, but for all mankind; and for all in the same sense. 3. That infants, dying in infancy, are saved through Christ and the sanctification of the Spirit. 4. That the Spirit of God operates on the world, as extensively as Christ has made atonement, in such a manner as to leave all men inexcusable.' With this avowed exception covering these points, they professed to agree with the Westminster Confession.

The general synod, constituted 1813, published an edition of the Confession and Shorter Catechism revised so as to conform to the views of the denomination as given above. In 1828, to keep pace with the growth of the churches, the synod was expanded into the general assembly, which meets annually on the third Thursday of May. At the meeting of the Pan-Presbyterian Council, in Belfast, 1884, June, the Cumberland churches having applied for admission to membership, and their delegates being present, the committee on admission reported, unanimously 'recommending the council (without pronouncing any judgment on the church's revision of the Westminster Confession and Shorter Catechism) to admit the Cumberland Presbyterian Church into the alliance, and to invite the delegates now present to take their seats.' This report gave rise to a long and earnest debate, and having, by a vote of 112 to 74 been amended so that the clause '*without pronouncing any judgment on,*' etc., reads, '*without approving,*' etc., was adopted; only 12 delegates voting for exclusion. The roll of the Cumberland delegates was then called, and having answered to their names, they were welcomed by the moderator into the council.

The first college of the denomination, founded 1827 at Princeton, Ky., was removed 1842 to Lebanon, Tenn., and named Cumberland University. It has literary, law, and theological departments, with (1896) instructors 20, and students 313. The law school is especially eminent. The Ladies' Female Coll., an annex of the univ., had students 122, N. Green, LL.D., chan. The other colleges of the church are as follows, with statistics of 1896: Waynesburg Coll., Waynesburg, Penn., instructors 10, students 285; Lincoln Univ., Lincoln, Ill., instructors 9, students 150; Mo. Valley Coll., Marshall, Mo., instructors 13, students 273;

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Trinity Univ., Tehuacana, Tex., instructors 15, students 267; Ark. Cum. Coll., Clarksville, Ark., instructors 9, students 142; Bethel Coll., McKenzie, Tenn., instructors 5; students 160, and Ozark Coll., Greenfield, Mo., instructors 5, students 78. There are also 10 high schools and academies under the control of the denomination, with a total of instructors 62, students 1,202. There are 211 students in the various colleges preparing for the ministry.

The publishing house is located at Nashville, Tenn., where is issued the leading church paper. *The Cumberland Presbyterian*, and other periodicals. The church conducts 23 home missions, and foreign missions in Mexico and Japan. The denomination, now extending from Pennsylvania to the Pacific, and from the lakes to Texas, comprises (according to the Minutes of the 66th General Assembly, 1896, May) synods 15, presbyteries 126, ordained ministers 1,617, licentiates 274, congregations 2,867, communicants, including estimates of 420 churches not reporting, 193,987 (an increase of 17 per cent. since 1890); Sunday-school teachers and scholars 102,445; Christian Endeavor societies 1,031; members 29,792. During the year the amount reported contributed for all purposes was \$785,934, averaging \$4.74 per member.

The principal strength of the church is found in the following states: Tenn. has 24 per cent. of the entire membership, two-thirds of which is confined to the western half of the state; Mo., 15 per cent.; Tex., 13 per cent.; Ky., $9\frac{1}{2}$ per cent.; Ill., $8\frac{1}{2}$ per cent., and Penn., 4 per cent., wholly in western part of the state. Church property is valued at over \$3,500,000. There is also a separate assembly for the colored portion of the denomination, comprising, so far as reported, 5 synods, 22 presbyteries, 200 ordained ministers, 180 licentiate preachers, 200 candidates, and 15,000 church members confined almost entirely to Tenn., Ala., Tex., and Kentucky.

Reports for 1902 showed 1,595 ministers, 2,944 churches, and 184,493 communicants. The colored branch had 450 ministers, 400 churches and 39,000 communicants.

CUMBERLAND RIVER—CUMBRIAN MOUNTAINS.

CUMBERLAND RIVER: rising in Ky., after a course of 600 m., of which the lower half is navigable for vessels of 400 tons, enters the Ohio at Smithland from the left, a few m. above the point where the Tennessee also joins the Ohio from the same side.

CUMBRAYS, *kŭm-brāz'*, or GREAT AND LITTLE CUMBRAY, *kŭm-brā'*: two small isles in the Firth of Clyde, between Bute Isle and Ayrshire, and included in the county of Bute. They consist of old red sandstone, with trap-dikes intersecting it. GREAT CUMBRAY, three m. e. of Bute, is 3½ m. long by two broad, contains Millport and Newton villages, and is a great summer resort of the inhabitants of Glasgow. Pop. (1881) 1,856.

LITTLE CUMBRAY lies nearly a mile s. of Great Cumbray, is one mile long by half a mile broad, and rises 780 ft.; it contains many caves, excavated by the sea in the stratified rocks. Pop. (1881) 23.

CUMBRE, LA, *lá-kŏm'brā* [Spanish for top or height]: one of the principal passes across the Andes, on the high-road between Santiago in Chili and Mendoza in the Argentine Republic. The altitude of its crest is 12,454 ft., fully one half higher than the pass of the Great St. Bernard in the Alps.

CUMBRIA, *kŭm'brī-a*: ancient British principality, comprising Cumberland in England and that part of Scotland now divided into the shires of Dumbarton, Renfrew, Ayr, Lanark, Peebles, Selkirk, Roxburgh, and Dumfries. It was governed by its own kings—who had their seat at Dumbarton, Glasgow, and elsewhere—until about the middle of the 10th c., when it became a tributary principality held of the king of the English, by the heir of the king of the Scots: see BRETT'S AND SCOTS.

CUMBRIAN, a. *kŭm'brī-ăn* [the anc. *Cumbria*]: in *geol.*, the term for the lowest slaty and partially fossiliferous beds of Westmoreland and Cumberland.

CUMBRIAN MOUNTAINS, *kŭm'brī-an*: great knot of highlands, nearly 50 m. in length and breadth, in the n.w. of England, occupying part of Cumberland, Westmoreland, and Lancashire. This tract, the English Lake district, has much of the physical character of Wales, and being unsurpassed in the British Isles for picturesqueness and beauty, it is much frequented by tourists. The central and s. parts consist of Silurian, granite, and trap rocks, rising in lofty rugged mountains, which inclose deep valleys and large lakes. There are 25 mountain-tops upward of 1,500 ft. high, including Sca Fell Pike, 3,210 ft.; Sca Fell, 3,162; Helvellyn, 3,118; and Skiddaw, 3,054. Four passes cross these mountains at the height of from 1,100 to 1,250 ft. The deep valleys between the mountains contain 14 lakes, 1 to 10 miles long. The largest of the lakes are Windermere, Ulleswater, Conistone Water, Bassenthwaite Water, and Derwentwater. A semicircular strip of carboniferous limestone skirts the north of the Silurian tract. On the higher C. M., snow lies six or eight months in a year, but on the neighboring coasts rarely above a few

CUMIANA—CUMMING.

days. Many eminent persons have resided among the lakes, the beauty of which has inspired some of the finest writings of Wordsworth, Coleridge, Southey, Prof. Wilson, De Quincey, Arnold, and Harriet Martineau.

CUMIANA, *kó-mē-á'ná*: town of n. Italy, province of Turin, 7 m. n. of Piñerolo, near the right bank of the Cisola. Pop. 5,700.

CUMMIN, or **CUMIN**, n. *kūm'in* [L. *cumīnum*; Gr. *kumīnon*], (*Cuminum*): genus of plants of the nat. order *Umbelifera*, containing only one known species (*C. cymīnum*), native of Egypt and the neighboring countries; an annual, with branched stem, much divided thread-like leaves, general and partial involucre resembling the leaves, umbels of



Cuminum Cyminum:
a, fruit; *b*, section of fruit.

small white or pink flowers, and fruit about two lines long. The fruit (seeds) has an odor resembling that of caraway, but stronger and less pleasant. It is used as a carminative in many parts of the world; in Germany, it is often put into bread; in Holland, sometimes into cheese. It is used also in medicine, particularly with resin for discutient plasters, but its use is now almost confined to veterinary practice. It contains a peculiar volatile oil (*Oil of Cummin*). *C.* is cultivated in the south and middle of Europe, India, etc.; its seed is exported from Sicily and Malta.—The fruit of *Lagoecia cuminoides*, another umbelliferous plant, a native of the Levant, is similar in its qualities and uses to that of cummin. The **BLACK C.** of the ancients is believed to be a species of *Nigella* (q.v.). Both perhaps are included in the name *C.* in Scripture. **CUMINIC ACID**, *kū-mīn'ik*, crystalline substance obtained from cummin. **CUMOL**, n. *kū'möl*, and **CUMINOL**, n. *kū'mīn-öl* [L. *olĕum*, oil]: two oils into which oil of cummin may be separated.

CUMMING, *kūm'ing*, **JOHN**, D.D.: 1810, Nov. 10—1881, June 5; b. Aberdeenshire: Scotch Presb. preacher and au-

CUMMINGS—CUMULATIVE.

thor. He was graduated at King's College, Aberdeen, 1827, and, 1833, was ordained in the Scotch Church, Crown Court, Covent Garden, London, where he officiated till 1879. He was widely known as the 'champion' of the anti-popery class of Protestants, and defender of the state church; but the chief source of his notoriety was his peculiarly literal and vivid apocalyptic interpretation, delineating as near at hand the second coming of Christ.

C.'s works are very voluminous: the chief are *Voices of the Night*, *Voices of the Day*, *Voices of the Dead*, *Apocalyptic Sketches*, *Expository Readings in the Old and New Test.*

CUMMINGS, AMOS JAY: 1841, May 15—1902, May 2, journalist: b. at Conkling, N. Y. At the age of 12 he was working in his father's printing-office at Irvington. In early manhood he worked as a printer in several states and in Canada; and travelled in Mexico, Central America, and Europe. In 1860 he left his work as compositor on the *New York Tribune*, enlisted in a regt. of vols., and was in the battles of Fredericksburg and Chancellorsville. Later, he was successively night editor, city editor, and political editor of the *Tribune*; and then became one of the editors of the *New York Sun*. He was pres. of the New York Press Club 1885-6; and was a democratic representative in congress from 1887 till his death.

CUMMINGS, JOSEPH, DD., LL.D.: 1817, Mar. 3—1890, May 7; educator: b. at Falmouth, Me. He graduated at Wesleyan Univ. 1840; became principal of Amenia (N. Y.) Seminary 1843; preached 1846-53; was prof. of theol. in the biblical institute, Concord, N. H., 1853-4; pres. of Genesee Coll., Lima, N. Y., 1854-57; pres. of Wesleyan Univ. 1857-75, and prof. of mental philos. and polit. economy in the same institution 1875-77; pres. of Northwestern Univ., Evanston, Ill., 1881-90. Many of his sermons and addresses have been published, and he edited Butler's *Analogy*.

CUMMINS, kŭm'inz, GEORGE DAVID, D.D.: 1822, Dec. 11—1876, June 26; b. near Smyrna, Del.: founder of the Ref. Episc. Church. He graduated at Dickinson College 1841, was a licentiate of the Meth. Episc. Church two years, was ordained deacon in the Prot. Episc. Church 1845, Oct., and presbyter 1847; was rector of churches in Norfolk, Richmond, Washington, Baltimore, and Chicago; was elected asst. bp. of Ky. 1866; resigned his office and withdrew from the church; and founded the Ref. Episc. Church in New York, and was elected its first presiding bp. 1873, Dec. 2.

CUMMINS, MARIA SUSANNA: author: 1827, Apr. 9—1866, Oct. 1; b. Salem, Mass.; dau. of Judge David C. She was educated at Mrs. Sedgewick's school at Lenox. Her first book, *The Lamplighter* (Boston 1854), had immense popularity on both sides of the Atlantic. Other works were *Mabel Vaughan* (1857); *El Fureidis* (1860); *Haunted Hearts* (1864); and many magazine articles.

CUM-SHAW, kŭm'shaw [Chin. *kom-tsie*, a present]: a present or bonus; originally that paid on vessels entering the port of Canton.

CUMULATIVE, a. kŭ'mŭ-lā'tiv [L. *cumulātus*, heaped up—from *cumulus*, a heap: It. *cumulare*; F. *cumuler*, to

heap up]: composed of parts in a heap that is added to something else; in *logic*, applied to a series of arguments which, taken in the whole, carries strong conviction, as *cumulative evidence*; in *med.*, a drug which remains long in the system without acting. CUMULATIVE VOTING, the practice of a voter possessed of several votes giving them all to one candidate instead of distributing them among two or more.

CUMULUS, n. *kŭ'mŭ-lŭs* [L. *cumŭlus*, a heap: It. *cumulo*]: convex or conical heaps of clouds, increasing upward from a horizontal base, usually of a very dense structure; the cloud of day. CU'MULO-STRA'TUS, a cloud formed by the cirro-stratus blending with the cumulus. CU'MULO-CIR'RO-STRA'TUS, the nimbus or rain-cloud, consisting of a cloud or system of clouds from which rain falls: see CIRRO.

CUMYN, *kŭm'in*, or CUMMING, *kŭm'ing*, or COMYN, *kŭm'in*: family which rose to great power and eminence in England and Scotland; named from the town of Comines, near Lille, on the frontier between France and Belgium. While one branch remained there, and in 1445, gave birth, in its old château, to the historian Philippe de Comines (q. v.), another followed the banners of William of Normandy to the conquest of England. In 1069, the Conqueror sent Robert of Comines, or Comyn, with 700 horse to reduce the yet unsubdued provinces of the north. He seized Durham, but had not held it for 48 hours, when the people suddenly rose against him, and he perished in the flames of the bishop's palace. His nephew, William, became chancellor of Scotland about 1133. The chancellor's nephew, Richard, inherited the English possessions of his family, and acquired lands in Scotland. By his marriage with Hexilda, Countess of Athol, the granddaughter of Donald Bane, King of the Scots, he had a son William, who, about 1210, became Earl of Buchan by marrying the Celtic heiress of that great northern earldom. By this marriage, he was father of Alexander, Earl of Buchan, who, by marrying a daughter of Roger de Quenci, Earl of Winchester, acquired the high office of Constable of Scotland, with great estates in Galloway, Fife, and the Lothians. By a previous marriage with a wife whose name has not been ascertained, William C. was father of Richard—whose son John became Lord of Badenoch—and of Walter, who by marriage became Earl of Monteith. By other marriages, the family obtained, for a time, the earldom of Angus and the earldom of Athol, so that by the middle of the 13th c., there were in Scotland 4 earls, 1 lord, and 32 belted knights of the name of Cumyn. Within 70 years, this great house was so utterly overthrown, that in the words of a contemporary chronicle, 'there was no memorial left of it in the land, save the orisons of the monks of Deer' (a monastery founded by William C., Earl of Buchan, 1219). The Cumyns perished in the memorable revolution which placed Bruce on the throne of Scotland. Their chief, the Lord of Badenoch, had, 1291, been an unsuccessful competitor for the crown, as a descendant, through king Donald Bane, of the old Celtic dynasty.

His son, Red John C., was one of the three wardens of Scotland, and distinguished himself by his gallant resistance to the English. He fell under Bruce's dagger, before the altar of the Franciscan friars at Dumfries, 1306; and his kindred went down, one after another, in the struggle to avenge him. John C., Earl of Buchan, was defeated by Bruce in a pitched battle, near Inverury, 1308, when his earldom was wasted with relentless severity, so that for 60 years afterward, men mourned the desolation of Buchan. Such of the Cumyns as escaped the sword, found refuge, with their wives and children in England, where, though they were so poor as to be dependents on the bounty of the English court, they married into the best families, so that, in the words of Mr. Riddel, 'their blood at this day circulates through all that is noble in the sister kingdom.'

CUNARD, *kũ-nârd'*, Sir SAMUEL: founder of the well-known line of Transatlantic steamers: 1787-1865, Apr. 28; b. Halifax, Nova Scotia, where his father, a French Canadian, had settled. Becoming early a successful merchant and shipowner, C. cherished the idea of steam communication between England and America; and having obtained a contract from the English government for the mail service, built four paddle-steamers for the Atlantic voyage. The first passage was that of the *Britannia*, 1840. From its small but successful beginning, C.'s undertaking soon developed into one of the vastest of private commercial concerns, and he was made a baronet, 1859. C. died at London.

CUNAXA, *kũ-nâks'â*: place in Babylonia, e. of the Euphrates, about 60 m. n. of Babylon, noted for the battle (B.C. 401) between Cyrus the younger and his brother Artaxerxes Mnemon, in which the former was killed.

CUNCTATOR, n. *kungk-tâ'ter* [L.]: a delayer; one who is cautiously slow: title applied especially to *Quintus Fabius Maximus*, who, when elected dictator of Rome after the fatal battle at Lake Thrasymene, B.C. 217, by a succession of skilful movements, marches, and counter-marches, without even coming to an engagement, greatly harassed the army of Hannibal.

CUNDINAMARCA, *kôn-dē nâ-mâr'ká*: central state of Colombia (formerly New Granada); area 79,000 sq. m. The w. part is mountainous, with luxuriant valleys; in the e. are vast plains. C. is well-wooded, and rich in minerals. The cap. of C. is Bogota, also cap. of the republic. C. was one of the most highly civilized regions of the continent before the Spanish conquest; and ancient ruins are numerous. Pop. (1881) 569,000.

CUNEAL, a. *kũ-nĩ-ăl* [L. *cũnĕŭs*, a wedge: It. *cuneo*]: having the form of a wedge. CU'NEATE, a. *-nĩ-ăt*, or CU'NEATED, a. wedge-shaped; tapering like a wedge. CUNE'IFORM, a. *-nĕ'i-fawrm* [L. *forma*, shape]: having the shape or form of a wedge.

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CUNEIFORM, or *Cuneatic*, or *Wedge-shaped*, or *Arrow-headed* [Fr. Tête-à-clou, Ger. Keilförmig]: form of writing, found in old Babylonian and Persian inscriptions, of which the component parts resemble either a wedge, the barb of an arrow, or a nail. It was used for monumental records, and was either hewn or carved in rocks and sculptures, or impressed on tiles and bricks. The earliest date that can be assigned to it is about B.C. 2000, and it seems to have died out shortly before or after the reign of Alexander the Great. It appears to have been employed first in Assyria and Media, and to have thence spread over the whole of that vast portion of Asia which formed the Persian monarchy under the Achæmenidæ. For nearly 2,000 years after its extinction its very existence was forgotten. Although the immense ruins found all over that ancient kingdom, and principally those of splendid palaces and tombs, which, at a distance of about 12 m. from Shiraz, designate the site of ancient Persepolis, had at all times attracted the attention of Eastern travellers, still no one seems to have dreamed that those strange wedges which completely covered some of them could have any meaning. It was Garcia de Sylva Figuëroa, ambassador of Philip III. of Spain, who, on a visit to Persepolis, 1618, first became possessed with the firm conviction that these signs must be inscriptions in some lost writing and, perhaps, language, and had a line of them copied. Among subsequent travellers whose attention was attracted to the subject, Chardin, after his return to Europe, 1674, published three complete groups of cuneiforms, copied by himself at Persepolis, together with a comparatively long and minute account of the mysterious character. He likewise declared it to be 'writing and no hieroglyphs: the rest, however, will always be unknown.' Michaux, a French botanist, sent, 1782, an entire altar, found at Bagdad, to Paris, covered with inscriptions, and bearing a large wedge—evidently an object of worship—on its top. Ever since, the materials for the investigation of a subject, the high importance of which by that time was fully recognized, have been rapidly accumulating. Sir H. Jones, Ker Porter, Robert Stewart, Sir W. Ouseley, Bellino, Dr. Schultz—up to Rich and Botta, Flandin, Rouet, Layard, Oppert, and, above all, Rawlinson, each in his turn brought back more or less valuable materials from eastern travels; and these explorers were among the foremost students of the records which they had brought to light.

Though certain portions of these characters and the language that they represent are still shrouded in comparative mystery, it is highly interesting and instructive to notice the opinions first entertained of them by the learned in Europe. In the Transactions of the Royal Soc., 1693, June, they first appeared from a copy made by Flowers, and they are held to be 'the ancient writing of the Gaures or Gebres, or a kind of *telesmes*'—an expression no less unintelligible than the subject it tries to explain. Thomas Hyde, eminent Orientalist, declared them, in his learned work on the religion of the ancient Persians (1700), nothing more or less than idle fancies of the architect who endeavored to show how many

different characters a certain peculiar stroke in different combinations could furnish, and reproved the authors of all those 'so-called Persepolitan inscriptions' very strongly for having misled so many wise men, and taken up so much of his own precious time. Witte, in Rostock, saw in them the destructive work of generations upon generations of *worms*. Generally, they were pronounced to be talismanic signs, mysterious formulæ of priests, astrological symbols, charms, which, if properly read and used, would open immense vaults full of gold and pearls—an opinion widely diffused among the native *savans*. The next step was to see in them a species of revealed digital language, such as the Almighty had first used to Adam. Lichtenstein read in some of them certain passages from the Koran, written in Cufic, the ancient Arabic character; in others, a record of Tamerlane; and was only surprised that others should not have found this, the easiest and clearest reading, long before him. Kæmpfer was not sure whether they were Chinese or Hebrew characters. That they were Runes, Oghams, Samaritan, Greek characters, were some of the soberest explanations.

It was Karsten Niebuhr who first showed the way out of this labyrinth of absurdities. Without attempting to read the character itself, he first of all established three distinct cuneiform alphabets instead of one, the letters of which seemed to outnumber those of all other languages together. The threefold inscriptions found at Persepolis he thus took to be transcripts of the same text in three alphabets, in a hitherto unknown language. Tychsel of Rostock (1798), and Münter of Copenhagen (1800), affirmed and further developed this conjecture. The latter went so far as to divide the characters and inscriptions into alphabetical, syllabic, and monogrammatical, and to assume two different languages—Zend for inscriptions of a religious, Pehlvi for those of a political character. The real and final discovery, however, is due to Grotefend of Hanover, and dates from 1802. On Sep. 7 of that year, he laid the first cuneiform alphabet, with its equivalents, before the Acad. of Göttingen—by a remarkable coincidence, in the very same sitting in which Heyne gave an account of the first reading of hieroglyphs. The process by which Grotefend arrived at that wonderful result is exceedingly interesting. He fixed upon a Persepolitan inscription of what was called the first class, and counted in it 30 promiscuously recurring groups or combinations of cuneiforms. These groups he concluded to be letters, and not words, as a syllabarium of 30 words could not be thought of in any language. Then, again, a certain oblique wedge, evidently a sign of division, which stood after three, four, five, up to eight or nine such groups or letters, must show the beginning or end, not of a phrase, but of a word. Tychsel and Münter had already pointed out a certain combination of seven characters as signifying the royal title. Grotefend adopted this opinion. The word occurred here and there in the text, and after the first words of most of the inscriptions, twice; the second time with an appendage, which he concluded to be

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the termination of the genitive plural, and he translated these two words, without regard to their phonetic value, 'King of Kings.' He then, in comparing the words preceding the royal titles in two tablets, found them repeated in what he assumed to be a filial relation; thus: There were three distinct groups, words, or names, which we will call X, D, and H, and this is how they occurred: 1, X, King of Kings, son of D, King of Kings; 2, D, King of Kings, son of H; but the 3, H, was *not* followed by the word King. H, therefore, must have been the founder of the dynasty. Now the names themselves had to be found. Grotefend, unlike his predecessors, had no recourse to philology, but to archeology and history. The inscriptions in question were by that time proved to belong to the Achæmenian dynasty, founded by Hystaspes = group H. He was followed by Darius, 'King of Kings, son of Hystaspes,' or Darius Hystaspis = group D; he, again, by Xerxes, King of Kings, son of Darius, King of Kings = group X—and the problem was solved. It could not have been Cyrus and Cambyses, as the groups did not begin with the same signs (C); nor Cyrus and Artaxerxes, the first being too short for the group, the second too long—it could only be Darius, Xerxes, Hystaspes—of course, in the orthography of their, not of our time; and wherever in these names the same letters recurred, they were expressed by the same combinations of signs. A further proof of the correctness of the reading was furnished by a vase in Venice, bearing a cuneiform and a hieroglyphical inscription, which were both read at the same time independently: 'Xerxes' Innumerable difficulties, however, remained, and remain to this moment. Grotefend had, after all, read only—and not altogether correctly—three names, which did not contain more than 12 letters—the rest being mere conjecture—and there were many more in this alphabet. The two other alphabets, with an infinite variety of letters, had hardly been properly approached yet. Moreover, the discovery of Grotefend was in itself so startling, so extraordinary and bold, that no one ventured to follow it up for the next 20 years, when H. Martin found the grammatical flexions of the plural and genitive case. Not specifying his further discoveries, or those of Rask, Burnouf, Lassen, Westergaard, Beer, Jacquet, and others who followed, it may be said that they mostly secured for themselves fame by rectifying or fixing one or two letters. The last and greatest of investigators of this first alphabet is Rawlinson, who not only first copied, but also read, the gigantic Behistun inscription—containing more than 1,000 lines—of which more anon.

Proceeding now with the results of the investigations of the cuneiform character in general, till the present time, notice should be taken, that though much has been done, more remains to be done, and that a few years may change the whole aspect of cuneiform studies.

Cuneiform writing was used for monumental records only, a cursive writing—from right to left—being used for records of minor importance. The inscriptions are found

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mostly in three parallel columns or tablets, and are then translations of each other in different alphabets and languages, called respectively Persian, Median, and Assyrian; the Achæmenian kings being obliged to make their decrees intelligible to the three principal nations under their sway, as in our days the Shah of Persia would use the Persian, Turkish, and Arabic languages, in order that he might be understood in Bagdad and Teheran.

The first of the three, the Persian—first, so far as it always holds the place of honor—consists of 39 to 44 letters, and is the most recent of the three, the most ancient being the Assyrian. It is distinguished by the oblique stroke which divides its words. Its letters are composed of not more than five strokes or wedges placed side by side horizontally or perpendicularly, or both, never—with one exception—crossing each other. The language is pronounced by all investigators (save Gobineau) to be as near Sanskrit as possible, though not so refined, and to be the mother-language of modern Persian. It is only twice found by itself; all the other inscriptions are trilingual. The time of its use is confined to the years B.C. 570–370. The oldest instance of its employment is an inscription of Cyrus the Great at Pasargadæ; the most recent, that of Artaxerxes Ochus at Persepolis. The most important is that of Darius Hystaspis, in the great inscription of Behistun, which contains, besides genealogical records, a description of the extent of his power, the leading incidents of his reign, prayers to Ormuzd and the angels, and reference to the building of the palaces—the last two subjects generally forming the only contents of the other Persian inscriptions. The inscription of Artaxerxes Ochus is important, so far as it traces his origin to the Achæmenidæ, through Arsames, grandfather of Darius. Most of these inscriptions occur at Persepolis, Behistun, Naksh-i-Rustan, and Hamadan.

The second kind is called the Median, because it takes the second place in the trilingual inscriptions, under the conquering Persians, but over the conquered Assyrians, and as the Medes stood somewhat in that relation to these two nations, that name was selected. Another name, 'Scythic,' has been proposed, or, by way of compromise, 'Medo-Scythic,' and the language—supposed to have been spoken by those innumerable Tartaro-Finnic tribes which occupied the centre of Asia—has been pronounced to be a Turanian dialect. But the process of constructing out of such slender elements as Samojed and Ostiak words a so-called 'Scythic,' is somewhat similar to the attempt of reconstructing Sanskrit from some detached and very doubtful French and English words. These inscriptions never occur by themselves (one instance again excepted), and being translations of the Persian records, about 90 names have been ascertained; and an alphabet of about 100 characters—combinations of a syllabic nature—has been established. The principal investigators of this character are Westergaard, De Saulcy, Hincks, Norris, and

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Oppert. Gobineau holds the language to be Huzvaresh, a mixture of Iranian and Semitic.

The third and most important is the Assyrian portion of the cuneiforms. The trilingual records gave the first clue to the deciphering of this character; but many original, more than a thousand years older, documents have since been found in Babylon, Nineveh, and other places near the Euphrates and Tigris, and even in Egypt. About 400 different signs have been distinguished on slabs, cylinders, barrels, prisms, of a phonetic, syllabic, and ideographic nature. Proper names are preceded by monograms, which give the same help to their readings as cartouches in hieroglyphics. Of those 400 signs, however, hardly one-tenth are known for certain. Proper names were found varied to about five times, and the characters themselves are both homophonous (same sound expressed by various signs) and polyphonous (same sign with various sounds). Five and more dialects have been distinguished in the language, which is decidedly Semitic (Gobineau takes it to be simply Arabic); and these dialects are supposed to have belonged either to different tribes or subsequent periods. It is this alphabet about which the greatest uncertainty and confusion prevail, for endless subdivisions, and even certain assumed grammatical forms, do not constitute a certainty. There is, however, a hope of its eventually being fully deciphered. A few years ago, the Asiatic Soc. submitted a cylinder of Tiglath-Pileser to four prominent investigators of the subject, and they independently read it nearly alike, with exception of the proper names, where they widely differed. Proof of the enormous importance of this character for history, grammar, law, mythology, archeology, and antiquities generally, is given by some of the records of which Rawlinson, a few years ago, proposed the publication (now in progress): Chaldaean Legends (B.C. 2000-1500); Bricks from Kilehsergat, of the early Kings of Assur (1273-1100), in a character approaching the cursive; Annals of Tiglath-Pileser I. (B.C. 1120); Annals of Sardanapalus, of Shamas, father to the biblical Pul, of the biblical Pul and Semiramis, his wife, of Sargon, Sennacherib, Assur-bani-Pal, son of Esarhaddon; Cylinder of Nebuchadnezzar; Cylinders containing the notice of Belshazzar, etc.; besides syllabaries, vocabularies, mathematical and astronomical tablets, calendars, and registers, and more than 1,000 mythological tablets. Nay, if the Birs-Nimrud really stands on the foundations of the old tower of Babel, we might in the bricks excavated at these very foundations read the language spoken at the time 'when the whole earth was of one speech.'

As to the origin of the character, nothing certain is known, or is likely to be known for some time. It is not unlikely that it was hieroglyphic, though neither the fishes nor the bees, which these letters are supposed to have been originally, seem to have more in their favor than the worms, which were said to be their unconscious authors. The following is the opinion of Rawlinson on this point: 'That the employment of the cuneiform character

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originated in Assyria, while the system of writing to which it was adapted was borrowed from Egypt, will hardly admit of question. Whether the cuneiform letters, in their primitive shapes, were intended like the hieroglyphs to represent actual objects, and were afterward degraded to their present forms; or whether the point of departure was from the Hieratic, or perhaps the Demotic character, the first change from a picture to a sign having thus taken place before Assyria formed her alphabet, I will not undertake to decide; but the whole structure of the Assyrian graphic system evidently betrays an Egyptian origin. The alphabet is partly ideographic and partly phonetic, and the phonetic signs are in some cases syllabic, and in others literal. Where a sign represents a syllable, I conjecture that the syllable in question may have been the specific name of the object which the sign was supposed to depict.' For the opinion that the cuneiform characters were invented by the primitive Accadian inhabitants of Chaldæa (who spoke an agglutinative language), see ASSYRIA.

Subjoined is the name of Darius (Dariyavas, Tariyavaus), written in the Persian, Scythic, and Assyrian alphabets:

Persian.

𐎠𐎡𐎢𐎣𐎤𐎥𐎦𐎧𐎨𐎩𐎪𐎫𐎬𐎭𐎮𐎯𐎰𐎱𐎲𐎳𐎴𐎵𐎶𐎷𐎸𐎹𐎺𐎻𐎼𐎽𐎾𐎿𐏀𐏁𐏂𐏃𐏄𐏅𐏆𐏇𐏈𐏉𐏊𐏋𐏌𐏍𐏎𐏏𐏐𐏑𐏒𐏓𐏔𐏕𐏖𐏗𐏘𐏙𐏚𐏛𐏜𐏝𐏞𐏟𐏠𐏡𐏢𐏣𐏤𐏥𐏦𐏧𐏨𐏩𐏪𐏫𐏬𐏭𐏮𐏯𐏰𐏱𐏲𐏳𐏴𐏵𐏶𐏷𐏸𐏹𐏺𐏻𐏼𐏽𐏾𐏿𐐀𐐁𐐂𐐃𐐄𐐅𐐆𐐇𐐈𐐉𐐊𐐋𐐌𐐍𐐎𐐏𐐐𐐑𐐒𐐓𐐔𐐕𐐖𐐗𐐘𐐙𐐚𐐛𐐜𐐝𐐞𐐟𐐠𐐡𐐢𐐣𐐤𐐥𐐦𐐧𐐨𐐩𐐪𐐫𐐬𐐭𐐮𐐯𐐰𐐱𐐲𐐳𐐴𐐵𐐶𐐷𐐸𐐹𐐺𐐻𐐼𐐽𐐾𐐿𐑀𐑁𐑂𐑃𐑄𐑅𐑆𐑇𐑈𐑉𐑊𐑋𐑌𐑍𐑎𐑏𐑐𐑑𐑒𐑓𐑔𐑕𐑖𐑗𐑘𐑙𐑚𐑛𐑜𐑝𐑞𐑟𐑠𐑡𐑢𐑣𐑤𐑥𐑦𐑧𐑨𐑩𐑪𐑫𐑬𐑭𐑮𐑯𐑰𐑱𐑲𐑳𐑴𐑵𐑶𐑷𐑸𐑹𐑺𐑻𐑼𐑽𐑾𐑿𐒀𐒁𐒂𐒃𐒄𐒅𐒆𐒇𐒈𐒉𐒊𐒋𐒌𐒍𐒎𐒏𐒐𐒑𐒒𐒓𐒔𐒕𐒖𐒗𐒘𐒙𐒚𐒛𐒜𐒝𐒞𐒟𐒠𐒡𐒢𐒣𐒤𐒥𐒦𐒧𐒨𐒩𐒪𐒫𐒬𐒭𐒮𐒯𐒰𐒱𐒲𐒳𐒴𐒵𐒶𐒷𐒸𐒹𐒺𐒻𐒼𐒽𐒾𐒿𐓀𐓁𐓂𐓃𐓄𐓅𐓆𐓇𐓈𐓉𐓊𐓋𐓌𐓍𐓎𐓏𐓐𐓑𐓒𐓓𐓔𐓕𐓖𐓗𐓘𐓙𐓚𐓛𐓜𐓝𐓞𐓟𐓠𐓡𐓢𐓣𐓤𐓥𐓦𐓧𐓨𐓩𐓪𐓫𐓬𐓭𐓮𐓯𐓰𐓱𐓲𐓳𐓴𐓵𐓶𐓷𐓸𐓹𐓺𐓻𐓼𐓽𐓾𐓿𐔀𐔁𐔂𐔃𐔄𐔅𐔆𐔇𐔈𐔉𐔊𐔋𐔌𐔍𐔎𐔏𐔐𐔑𐔒𐔓𐔔𐔕𐔖𐔗𐔘𐔙𐔚𐔛𐔜𐔝𐔞𐔟𐔠𐔡𐔢𐔣𐔤𐔥𐔦𐔧𐔨𐔩𐔪𐔫𐔬𐔭𐔮𐔯𐔰𐔱𐔲𐔳𐔴𐔵𐔶𐔷𐔸𐔹𐔺𐔻𐔼𐔽𐔾𐔿𐕀𐕁𐕂𐕃𐕄𐕅𐕆𐕇𐕈𐕉𐕊𐕋𐕌𐕍𐕎𐕏𐕐𐕑𐕒𐕓𐕔𐕕𐕖𐕗𐕘𐕙𐕚𐕛𐕜𐕝𐕞𐕟𐕠𐕡𐕢𐕣𐕤𐕥𐕦𐕧𐕨𐕩𐕪𐕫𐕬𐕭𐕮𐕯𐕰𐕱𐕲𐕳𐕴𐕵𐕶𐕷𐕸𐕹𐕺𐕻𐕼𐕽𐕾𐕿𐖀𐖁𐖂𐖃𐖄𐖅𐖆𐖇𐖈𐖉𐖊𐖋𐖌𐖍𐖎𐖏𐖐𐖑𐖒𐖓𐖔𐖕𐖖𐖗𐖘𐖙𐖚𐖛𐖜𐖝𐖞𐖟𐖠𐖡𐖢𐖣𐖤𐖥𐖦𐖧𐖨𐖩𐖪𐖫𐖬𐖭𐖮𐖯𐖰𐖱𐖲𐖳𐖴𐖵𐖶𐖷𐖸𐖹𐖺𐖻𐖼𐖽𐖾𐖿𐗀𐗁𐗂𐗃𐗄𐗅𐗆𐗇𐗈𐗉𐗊𐗋𐗌𐗍𐗎𐗏𐗐𐗑𐗒𐗓𐗔𐗕𐗖𐗗𐗘𐗙𐗚𐗛𐗜𐗝𐗞𐗟𐗠𐗡𐗢𐗣𐗤𐗥𐗦𐗧𐗨𐗩𐗪𐗫𐗬𐗭𐗮𐗯𐗰𐗱𐗲𐗳𐗴𐗵𐗶𐗷𐗸𐗹𐗺𐗻𐗼𐗽𐗾𐗿𐘀𐘁𐘂𐘃𐘄𐘅𐘆𐘇𐘈𐘉𐘊𐘋𐘌𐘍𐘎𐘏𐘐𐘑𐘒𐘓𐘔𐘕𐘖𐘗𐘘𐘙𐘚𐘛𐘜𐘝𐘞𐘟𐘠𐘡𐘢𐘣𐘤𐘥𐘦𐘧𐘨𐘩𐘪𐘫𐘬𐘭𐘮𐘯𐘰𐘱𐘲𐘳𐘴𐘵𐘶𐘷𐘸𐘹𐘺𐘻𐘼𐘽𐘾𐘿𐙀𐙁𐙂𐙃𐙄𐙅𐙆𐙇𐙈𐙉𐙊𐙋𐙌𐙍𐙎𐙏𐙐𐙑𐙒𐙓𐙔𐙕𐙖𐙗𐙘𐙙𐙚𐙛𐙜𐙝𐙞𐙟𐙠𐙡𐙢𐙣𐙤𐙥𐙦𐙧𐙨𐙩𐙪𐙫𐙬𐙭𐙮𐙯𐙰𐙱𐙲𐙳𐙴𐙵𐙶𐙷𐙸𐙹𐙺𐙻𐙼𐙽𐙾𐙿𐚀𐚁𐚂𐚃𐚄𐚅𐚆𐚇𐚈𐚉𐚊𐚋𐚌𐚍𐚎𐚏𐚐𐚑𐚒𐚓𐚔𐚕𐚖𐚗𐚘𐚙𐚚𐚛𐚜𐚝𐚞𐚟𐚠𐚡𐚢𐚣𐚤𐚥𐚦𐚧𐚨𐚩𐚪𐚫𐚬𐚭𐚮𐚯𐚰𐚱𐚲𐚳𐚴𐚵𐚶𐚷𐚸𐚹𐚺𐚻𐚼𐚽𐚾𐚿𐛀𐛁𐛂𐛃𐛄𐛅𐛆𐛇𐛈𐛉𐛊𐛋𐛌𐛍𐛎𐛏𐛐𐛑𐛒𐛓𐛔𐛕𐛖𐛗𐛘𐛙𐛚𐛛𐛜𐛝𐛞𐛟𐛠𐛡𐛢𐛣𐛤𐛥𐛦𐛧𐛨𐛩𐛪𐛫𐛬𐛭𐛮𐛯𐛰𐛱𐛲𐛳𐛴𐛵𐛶𐛷𐛸𐛹𐛺𐛻𐛼𐛽𐛾𐛿𐜀𐜁𐜂𐜃𐜄𐜅𐜆𐜇𐜈𐜉𐜊𐜋𐜌𐜍𐜎𐜏𐜐𐜑𐜒𐜓𐜔𐜕𐜖𐜗𐜘𐜙𐜚𐜛𐜜𐜝𐜞𐜟𐜠𐜡𐜢𐜣𐜤𐜥𐜦𐜧𐜨𐜩𐜪𐜫𐜬𐜭𐜮𐜯𐜰𐜱𐜲𐜳𐜴𐜵𐜶𐜷𐜸𐜹𐜺𐜻𐜼𐜽𐜾𐜿𐝀𐝁𐝂𐝃𐝄𐝅𐝆𐝇𐝈𐝉𐝊𐝋𐝌𐝍𐝎𐝏𐝐𐝑𐝒𐝓𐝔𐝕𐝖𐝗𐝘𐝙𐝚𐝛𐝜𐝝𐝞𐝟𐝠𐝡𐝢𐝣𐝤𐝥𐝦𐝧𐝨𐝩𐝪𐝫𐝬𐝭𐝮𐝯𐝰𐝱𐝲𐝳𐝴𐝵𐝶𐝷𐝸𐝹𐝺𐝻𐝼𐝽𐝾𐝿𐞀𐞁𐞂𐞃𐞄𐞅𐞆𐞇𐞈𐞉𐞊𐞋𐞌𐞍𐞎𐞏𐞐𐞑𐞒𐞓𐞔𐞕𐞖𐞗𐞘𐞙𐞚𐞛𐞜𐞝𐞞𐞟𐞠𐞡𐞢𐞣𐞤𐞥𐞦𐞧𐞨𐞩𐞪𐞫𐞬𐞭𐞮𐞯𐞰𐞱𐞲𐞳𐞴𐞵𐞶𐞷𐞸𐞹𐞺𐞻𐞼𐞽𐞾𐞿𐟀𐟁𐟂𐟃𐟄𐟅𐟆𐟇𐟈𐟉𐟊𐟋𐟌𐟍𐟎𐟏𐟐𐟑𐟒𐟓𐟔𐟕𐟖𐟗𐟘𐟙𐟚𐟛𐟜𐟝𐟞𐟟𐟠𐟡𐟢𐟣𐟤𐟥𐟦𐟧𐟨𐟩𐟪𐟫𐟬𐟭𐟮𐟯𐟰𐟱𐟲𐟳𐟴𐟵𐟶𐟷𐟸𐟹𐟺𐟻𐟼𐟽𐟾𐟿𐠀𐠁𐠂𐠃𐠄𐠅𐠆𐠇𐠈𐠉𐠊𐠋𐠌𐠍𐠎𐠏𐠐𐠑𐠒𐠓𐠔𐠕𐠖𐠗𐠘𐠙𐠚𐠛𐠜𐠝𐠞𐠟𐠠𐠡𐠢𐠣𐠤𐠥𐠦𐠧𐠨𐠩𐠪𐠫𐠬𐠭𐠮𐠯𐠰𐠱𐠲𐠳𐠴𐠵𐠶𐠷𐠸𐠹𐠺𐠻𐠼𐠽𐠾𐠿𐡀𐡁𐡂𐡃𐡄𐡅𐡆𐡇𐡈𐡉𐡊𐡋𐡌𐡍𐡎𐡏𐡐𐡑𐡒𐡓𐡔𐡕𐡖𐡗𐡘𐡙𐡚𐡛𐡜𐡝𐡞𐡟𐡠𐡡𐡢𐡣𐡤𐡥𐡦𐡧𐡨𐡩𐡪𐡫𐡬𐡭𐡮𐡯𐡰𐡱𐡲𐡳𐡴𐡵𐡶𐡷𐡸𐡹𐡺𐡻𐡼𐡽𐡾𐡿𐢀𐢁𐢂𐢃𐢄𐢅𐢆𐢇𐢈𐢉𐢊𐢋𐢌𐢍𐢎𐢏𐢐𐢑𐢒𐢓𐢔𐢕𐢖𐢗𐢘𐢙𐢚𐢛𐢜𐢝𐢞𐢟𐢠𐢡𐢢𐢣𐢤𐢥𐢦𐢧𐢨𐢩𐢪𐢫𐢬𐢭𐢮𐢯𐢰𐢱𐢲𐢳𐢴𐢵𐢶𐢷𐢸𐢹𐢺𐢻𐢼𐢽𐢾𐢿𐣀𐣁𐣂𐣃𐣄𐣅𐣆𐣇𐣈𐣉𐣊𐣋𐣌𐣍𐣎𐣏𐣐𐣑𐣒𐣓𐣔𐣕𐣖𐣗𐣘𐣙𐣚𐣛𐣜𐣝𐣞𐣟𐣠𐣡𐣢𐣣𐣤𐣥𐣦𐣧𐣨𐣩𐣪𐣫𐣬𐣭𐣮𐣯𐣰𐣱𐣲𐣳𐣴𐣵𐣶𐣷𐣸𐣹𐣺𐣻𐣼𐣽𐣾𐣿𐤀𐤁𐤂𐤃𐤄𐤅𐤆𐤇𐤈𐤉𐤊𐤋𐤌𐤍𐤎𐤏𐤐𐤑𐤒𐤓𐤔𐤕𐤖𐤗𐤘𐤙𐤚𐤛𐤜𐤝𐤞𐤟𐤠𐤡𐤢𐤣𐤤𐤥𐤦𐤧𐤨𐤩𐤪𐤫𐤬𐤭𐤮𐤯𐤰𐤱𐤲𐤳𐤴𐤵𐤶𐤷𐤸𐤹𐤺𐤻𐤼𐤽𐤾𐤿𐥀𐥁𐥂𐥃𐥄𐥅𐥆𐥇𐥈𐥉𐥊𐥋𐥌𐥍𐥎𐥏𐥐𐥑𐥒𐥓𐥔𐥕𐥖𐥗𐥘𐥙𐥚𐥛𐥜𐥝𐥞𐥟𐥠𐥡𐥢𐥣𐥤𐥥𐥦𐥧𐥨𐥩𐥪𐥫𐥬𐥭𐥮𐥯𐥰𐥱𐥲𐥳𐥴𐥵𐥶𐥷𐥸𐥹𐥺𐥻𐥼𐥽𐥾𐥿𐦀𐦁𐦂𐦃𐦄𐦅𐦆𐦇𐦈𐦉𐦊𐦋𐦌𐦍𐦎𐦏𐦐𐦑𐦒𐦓𐦔𐦕𐦖𐦗𐦘𐦙𐦚𐦛𐦜𐦝𐦞𐦟𐦠𐦡𐦢𐦣𐦤𐦥𐦦𐦧𐦨𐦩𐦪𐦫𐦬𐦭𐦮𐦯𐦰𐦱𐦲𐦳𐦴𐦵𐦶𐦷𐦸𐦹𐦺𐦻𐦼𐦽𐦾𐦿𐧀𐧁𐧂𐧃𐧄𐧅𐧆𐧇𐧈𐧉𐧊𐧋𐧌𐧍𐧎𐧏𐧐𐧑𐧒𐧓𐧔𐧕𐧖𐧗𐧘𐧙𐧚𐧛𐧜𐧝𐧞𐧟𐧠𐧡𐧢𐧣𐧤𐧥𐧦𐧧𐧨𐧩𐧪𐧫𐧬𐧭𐧮𐧯𐧰𐧱𐧲𐧳𐧴𐧵𐧶𐧷𐧸𐧹𐧺𐧻𐧼𐧽𐧾𐧿𐨀𐨁𐨂𐨃𐨄𐨅𐨆𐨇𐨈𐨉𐨊𐨋𐨌𐨍𐨎𐨏𐨐𐨑𐨒𐨓𐨔𐨕𐨖𐨗𐨘𐨙𐨚𐨛𐨜𐨝𐨞𐨟𐨠𐨡𐨢𐨣𐨤𐨥𐨦𐨧𐨨𐨩𐨪𐨫𐨬𐨭𐨮𐨯𐨰𐨱𐨲𐨳𐨴𐨵𐨶𐨷𐨹𐨺𐨸𐨻𐨼𐨽𐨾𐨿𐩀𐩁𐩂𐩃𐩄𐩅𐩆𐩇𐩈𐩉𐩊𐩋𐩌𐩍𐩎𐩏𐩐𐩑𐩒𐩓𐩔𐩕𐩖𐩗𐩘𐩙𐩚𐩛𐩜𐩝𐩞𐩟𐩠𐩡𐩢𐩣𐩤𐩥𐩦𐩧𐩨𐩩𐩪𐩫𐩬𐩭𐩮𐩯𐩰𐩱𐩲𐩳𐩴𐩵𐩶𐩷𐩸𐩹𐩺𐩻𐩼𐩽𐩾𐩿𐪀𐪁𐪂𐪃𐪄𐪅𐪆𐪇𐪈𐪉𐪊𐪋𐪌𐪍𐪎𐪏𐪐𐪑𐪒𐪓𐪔𐪕𐪖𐪗𐪘𐪙𐪚𐪛𐪜𐪝𐪞𐪟𐪠𐪡𐪢𐪣𐪤𐪥𐪦𐪧𐪨𐪩𐪪𐪫𐪬𐪭𐪮𐪯𐪰𐪱𐪲𐪳𐪴𐪵𐪶𐪷𐪸𐪹𐪺𐪻𐪼𐪽𐪾𐪿𐫀𐫁𐫂𐫃𐫄𐫅𐫆𐫇𐫈𐫉𐫊𐫋𐫌𐫍𐫎𐫏𐫐𐫑𐫒𐫓𐫔𐫕𐫖𐫗𐫘𐫙𐫚𐫛𐫜𐫝𐫞𐫟𐫠𐫡𐫢𐫣𐫤𐫦𐫥𐫧𐫨𐫩𐫪𐫫𐫬𐫭𐫮𐫯𐫰𐫱𐫲𐫳𐫴𐫵𐫶𐫷𐫸𐫹𐫺𐫻𐫼𐫽𐫾𐫿𐬀𐬁𐬂𐬃𐬄𐬅𐬆𐬇𐬈𐬉𐬊𐬋𐬌𐬍𐬎𐬏𐬐𐬑𐬒𐬓𐬔𐬕𐬖𐬗𐬘𐬙𐬚𐬛𐬜𐬝𐬞𐬟𐬠𐬡𐬢𐬣𐬤𐬥𐬦𐬧𐬨𐬩𐬪𐬫𐬬𐬭𐬮𐬯𐬰𐬱𐬲𐬳𐬴𐬵𐬶𐬷𐬸𐬹𐬺𐬻𐬼𐬽𐬾𐬿𐭀𐭁𐭂𐭃𐭄𐭅𐭆𐭇𐭈𐭉𐭊𐭋𐭌𐭍𐭎𐭏𐭐𐭑𐭒𐭓𐭔𐭕𐭖𐭗𐭘𐭙𐭚𐭛𐭜𐭝𐭞𐭟𐭠𐭡𐭢𐭣𐭤𐭥𐭦𐭧𐭨𐭩𐭪𐭫𐭬𐭭𐭮𐭯𐭰𐭱𐭲𐭳𐭴𐭵𐭶𐭷𐭸𐭹𐭺𐭻𐭼𐭽𐭾𐭿𐮀𐮁𐮂𐮃𐮄𐮅𐮆𐮇𐮈𐮉𐮊𐮋𐮌𐮍𐮎𐮏𐮐𐮑𐮒𐮓𐮔𐮕𐮖𐮗𐮘𐮙𐮚𐮛𐮜𐮝𐮞𐮟𐮠𐮡𐮢𐮣𐮤𐮥𐮦𐮧𐮨𐮩𐮪𐮫𐮬𐮭𐮮𐮯𐮰𐮱𐮲𐮳𐮴𐮵𐮶𐮷𐮸𐮹𐮺𐮻𐮼𐮽𐮾𐮿𐯀𐯁𐯂𐯃𐯄𐯅𐯆𐯇𐯈𐯉𐯊𐯋𐯌𐯍𐯎𐯏𐯐𐯑𐯒𐯓𐯔𐯕𐯖𐯗𐯘𐯙𐯚𐯛𐯜𐯝𐯞𐯟𐯠𐯡𐯢𐯣𐯤𐯥𐯦𐯧𐯨𐯩𐯪𐯫𐯬𐯭𐯮𐯯𐯰𐯱𐯲𐯳𐯴𐯵𐯶𐯷𐯸𐯹𐯺𐯻𐯼𐯽𐯾𐯿𐰀𐰁𐰂𐰃𐰄𐰅𐰆𐰇𐰈𐰉𐰊𐰋𐰌𐰍𐰎𐰏𐰐𐰑𐰒𐰓𐰔𐰕𐰖𐰗𐰘𐰙𐰚𐰛𐰜𐰝𐰞𐰟𐰠𐰡𐰢𐰣𐰤𐰥𐰦𐰧𐰨𐰩𐰪𐰫𐰬𐰭𐰮𐰯𐰰𐰱𐰲𐰳𐰴𐰵𐰶𐰷𐰸𐰹𐰺𐰻𐰼𐰽𐰾𐰿𐱀𐱁𐱂𐱃𐱄𐱅𐱆𐱇𐱈𐱉𐱊𐱋𐱌𐱍𐱎𐱏𐱐𐱑𐱒𐱓𐱔𐱕𐱖𐱗𐱘𐱙𐱚𐱛𐱜𐱝𐱞𐱟𐱠𐱡𐱢𐱣𐱤𐱥𐱦𐱧𐱨𐱩𐱪𐱫𐱬𐱭𐱮𐱯𐱰𐱱𐱲𐱳𐱴𐱵𐱶𐱷𐱸𐱹𐱺𐱻𐱼𐱽𐱾𐱿𐲀𐲁𐲂𐲃𐲄𐲅𐲆𐲇𐲈𐲉𐲊𐲋𐲌𐲍𐲎𐲏𐲐𐲑𐲒𐲓𐲔𐲕𐲖𐲗𐲘𐲙𐲚𐲛𐲜𐲝𐲞𐲟𐲠𐲡𐲢𐲣𐲤𐲥𐲦𐲧𐲨𐲩𐲪𐲫𐲬𐲭𐲮𐲯𐲰𐲱𐲲𐲳𐲴𐲵𐲶𐲷𐲸𐲹𐲺𐲻𐲼𐲽𐲾𐲿𐳀𐳁𐳂𐳃𐳄𐳅𐳆𐳇𐳈𐳉𐳊𐳋𐳌𐳍𐳎𐳏𐳐𐳑𐳒𐳓𐳔𐳕𐳖𐳗𐳘𐳙𐳚𐳛𐳜𐳝𐳞𐳟𐳠𐳡𐳢𐳣𐳤𐳥𐳦𐳧𐳨𐳩𐳪𐳫𐳬𐳭𐳮𐳯𐳰𐳱𐳲𐳳𐳴𐳵𐳶𐳷𐳸𐳹𐳺𐳻𐳼𐳽𐳾𐳿𐴀𐴁𐴂𐴃𐴄𐴅𐴆𐴇𐴈𐴉𐴊𐴋𐴌𐴍𐴎𐴏𐴐𐴑𐴒𐴓𐴔𐴕𐴖𐴗𐴘𐴙𐴚𐴛𐴜𐴝𐴞𐴟𐴠𐴡𐴢𐴣𐴤𐴥𐴦𐴧𐴨𐴩𐴪𐴫𐴬𐴭𐴮𐴯𐴰𐴱𐴲𐴳𐴴𐴵𐴶𐴷𐴸𐴹𐴺𐴻𐴼𐴽𐴾𐴿𐵀𐵁𐵂𐵃𐵄𐵅𐵆𐵇𐵈𐵉𐵊𐵋𐵌𐵍𐵎𐵏𐵐𐵑𐵒𐵓𐵔𐵕𐵖𐵗𐵘𐵙𐵚𐵛𐵜𐵝𐵞𐵟𐵠𐵡𐵢𐵣𐵤𐵥𐵦𐵧𐵨𐵩𐵪𐵫𐵬𐵭𐵮𐵯𐵰𐵱𐵲𐵳𐵴𐵵𐵶𐵷𐵸𐵹𐵺𐵻𐵼𐵽𐵾𐵿𐶀𐶁𐶂𐶃𐶄𐶅𐶆𐶇𐶈𐶉𐶊𐶋𐶌𐶍𐶎𐶏𐶐𐶑𐶒𐶓𐶔𐶕𐶖𐶗𐶘𐶙𐶚𐶛𐶜𐶝𐶞𐶟𐶠𐶡𐶢𐶣𐶤𐶥𐶦𐶧𐶨𐶩𐶪𐶫𐶬𐶭𐶮𐶯𐶰𐶱𐶲𐶳𐶴𐶵𐶶𐶷𐶸𐶹𐶺𐶻𐶼𐶽𐶾𐶿𐷀𐷁𐷂𐷃𐷄𐷅𐷆𐷇𐷈𐷉𐷊𐷋𐷌𐷍𐷎𐷏𐷐𐷑𐷒𐷓𐷔𐷕𐷖𐷗𐷘𐷙𐷚𐷛𐷜𐷝𐷞𐷟𐷠𐷡𐷢𐷣𐷤𐷥𐷦𐷧𐷨𐷩𐷪𐷫𐷬𐷭𐷮𐷯𐷰𐷱𐷲𐷳𐷴𐷵𐷶𐷷𐷸𐷹𐷺𐷻𐷼𐷽𐷾𐷿𐸀𐸁𐸂𐸃𐸄𐸅𐸆𐸇𐸈𐸉𐸊𐸋𐸌𐸍𐸎𐸏𐸐𐸑𐸒𐸓𐸔𐸕𐸖𐸗𐸘𐸙𐸚𐸛𐸜𐸝𐸞𐸟𐸠𐸡𐸢𐸣𐸤𐸥𐸦𐸧𐸨𐸩𐸪𐸫𐸬𐸭𐸮𐸯𐸰𐸱𐸲𐸳𐸴𐸵𐸶𐸷𐸸𐸹𐸺𐸻𐸼𐸽𐸾𐸿𐹀𐹁𐹂𐹃𐹄𐹅𐹆𐹇𐹈𐹉𐹊𐹋𐹌𐹍𐹎𐹏𐹐𐹑𐹒𐹓𐹔𐹕𐹖𐹗𐹘𐹙𐹚𐹛𐹜𐹝𐹞𐹟𐹠𐹡𐹢𐹣𐹤𐹥𐹦𐹧𐹨𐹩𐹪𐹫𐹬𐹭𐹮𐹯𐹰𐹱𐹲𐹳𐹴𐹵𐹶𐹷𐹸𐹹𐹺𐹻𐹼𐹽𐹾𐹿𐺀𐺁𐺂𐺃𐺄𐺅𐺆𐺇𐺈𐺉𐺊𐺋𐺌𐺍𐺎𐺏𐺐𐺑𐺒𐺓𐺔𐺕𐺖𐺗𐺘𐺙𐺚𐺛𐺜𐺝𐺞𐺟𐺠𐺡𐺢𐺣𐺤𐺥𐺦𐺧𐺨𐺩𐺪𐺫𐺬𐺭𐺮𐺯𐺰𐺱𐺲𐺳𐺴𐺵𐺶𐺷𐺸𐺹𐺺𐺻𐺼𐺽𐺾𐺿𐻀𐻁𐻂𐻃𐻄𐻅𐻆𐻇𐻈𐻉𐻊𐻋𐻌𐻍𐻎𐻏𐻐𐻑𐻒𐻓𐻔𐻕𐻖𐻗𐻘𐻙𐻚𐻛𐻜𐻝𐻞𐻟𐻠𐻡𐻢𐻣𐻤𐻥𐻦𐻧𐻨𐻩𐻪𐻫𐻬𐻭𐻮𐻯𐻰𐻱𐻲𐻳𐻴𐻵𐻶𐻷𐻸𐻹𐻺𐻻𐻼𐻽𐻾𐻿𐼀𐼁𐼂𐼃𐼄𐼅𐼆𐼇𐼈𐼉𐼊𐼋𐼌𐼍𐼎𐼏𐼐𐼑𐼒𐼓𐼔𐼕𐼖𐼗𐼘𐼙𐼚𐼛𐼜𐼝𐼞𐼟𐼠𐼡𐼢𐼣𐼤𐼥𐼦𐼧𐼨𐼩𐼪𐼫𐼬𐼭𐼮𐼯𐼰𐼱𐼲𐼳𐼴𐼵𐼶𐼷𐼸𐼹𐼺𐼻𐼼𐼽𐼾𐼿𐽀𐽁𐽂𐽃𐽄

CUNNINGHAM—CUNONIA.

edge]: artful; sly; crafty; deceitful; trickish; in *Scrip.*, skilful; experienced: N. artifice; craft; shrewdness; deceit. CUN'NINGLY, ad. -lī, artfully; shily; craftily; skilfully. CUN'NINGNESS, n.—SYN. of 'cunning, a.': wily; designing; subtle; knowing.

CUNNINGHAM, kŭn'ing-am, ALLAN: 1785–1842, Oct. 21; b. Blackwood, in Dumfriesshire, England: poet and author. The circumstances of his parents were humble. At the age of 11, C. was taken from school, and apprenticed to a stone-mason. He worked faithfully at his calling; but his spare time, and his evenings, were given to song and the collection of traditions. He appeared in print first as a contributor to Cromek's *Remains of Nithsdale and Galloway Song*. These contributions, purporting to be ancient ballads, were entirely the composition of the ingenious and ambitious stone-cutter. The publication gained him the acquaintance of Hogg and Sir Walter Scott. With the latter, 'Honest Allan' was always a prodigious favorite. On his removal to London, he became one of the best known writers for the *London Magazine*. He subsequently obtained a situation in Chantrey's studio as foreman, or confidential manager, and this office he held till his death. During his career he wielded an indefatigable pen. He wrote novels, poems, and a drama. His principal prose works, apart from his fictitious narratives, are *Lives of the Painters*, a *Life of Burns*, and a *Life of Sir David Wilkie*. He died in London. As a Scotch poet, he ranks, perhaps, after James Hogg. His songs, though disfigured by false taste, mannerism, and a superabundance of ornament, have true lyrical impulse and movement.

CUNNINGHAM, PETER: 1816–69; son of Allan C.: known in literature as the author of *Handbook of London*, *Life of Drummond of Hawthornden*, *Life of Inigo Jones*, *Modern London*, etc.; as editor of various English classics; and as frequent contributor to periodicals.

CUNNINGHAM, WILLIAM, D.D.: 1805–61: theologian. He was ordained as a minister of the Church of Scotland, 1830. He was prominent in the discussions previous to the Disruption, 1843, and was one of those who left the Establishment to form the Free Church. In 1847, he became principal of the New (Free Church) College, Edinburgh. He was author of *Historic Theology in the Christian Church* (1862), *Reformers and Theology of the Reformation* (1862), and *Discourses on Church Principles* (1863).—See *Life of C.*, by Rainy and Mackenzie (1871).

CUNNINGHAMIA, kŭn-ing-hām'i-a: genus of trees of the nat. ord. *Coniferae*, nearly allied in botanical characters to the true pines and firs, but in foliage having considerable resemblance to the *Araucarias*. *C. Sinenois* is an evergreen tree, with narrow ovatolanceolate, stiff, and sharp-pointed leaves, common in China.

CUNONIA, n. kŭ-nō'nŭ-a [named after John Christian Cuno, of Amsterdam, who in 1750 described his own garden in verse]: genus of plants typical of the order

CUP—CUPAR-ANGUS.

Cunoniaceæ. CUNONIACEÆ, Cuconiads, an order of perigynous exogens, of the alliance saxi fragalis.

CUP, *n.* *kûp* [F. *coupe*—from L. *cupa*, a cask, a cup: It. *coppa*, a head, a cup. Ger. *kopf*, a cup, a knob: Skr. *kûpa*, a small cistern]: anything hollow; a small drinking-vessel; the contents of a cup; in *Scrip.*, sufferings or afflictions; any good received or evil endured: V. to draw blood by puncturing the skin and applying a cupping-glass; in *OE.*, to supply with liquor in cups. CUP'PING, *imp.*: N. in *surg.*, the operation of drawing blood with a cupping-glass: ADJ. pertaining to. CUPPED, *pp.* *kûpt*. CUPS, *n* plu. the excessive drinking of intoxicants. CUP'PING-GLASS, a small glass vessel shaped like a cup from which the air can be exhausted, used for drawing blood or morbid matter. CUP'PER, *n.* *-pér*, a surgeon who draws blood by cupping. CUP-BEARER, *n.* one who attends on a prince. CUPBOARD, *n.* *kûb'bôrd*, originally a *board* or shelf for cups; a case of shelves for china-ware, etc. CUP-LICHEN [so called from the form of the thallus]: *Scyphophorus pyxidatus*. IN HIS CUPS, drunk with strong drinks. CUP AND CAN, familiar companions. CUP-AND-CONE, apparatus for charging iron furnaces, which are worked with clamped tops for collecting the waste gases. MANY A SLIP BETWEEN THE CUP AND THE LIP, always a danger of our surest hopes and expectations not being realized.

CUP, DIVINATION BY: mode of foretelling events, practiced by the ancient Egyptians, and still prevailing in some rural districts of England and Scotland. One of the eastern methods consisted in throwing in small pieces of gold or silver leaf into a C. of water, in which also were placed precious stones, with certain characters engraved upon them. The infernal powers were then invoked, and returned answer, either in an intelligible voice, or by signs on the surface of the water, or by a representation in the C. of the person inquired about. By the modern superstition among the most ignorant, a person's fortune is foretold by the disposition of the sediment in his tea-cup, after pouring out the last of the liquid.

CUPAR-ANGUS, *kô'par-ång'gûs*: town on the borders of Perthshire and Forfarshire, partly in both; on the left bank of the Isla, a tributary of the Tay, 12½ m. e. by n. from Perth, and 16 m. w.n.w. from Dundee. It lies between the Grampian and Sidlaw Hills, in the centre of the valley of Strathmore, and from its position in this valley it is popularly called 'the capital o' the How.' It has extensive linen manufactures, with considerable traffic in timber. Near the town are the remains of two Roman camps, on one of which stand the ruins of a monastery, built 1164 by Malcolm IV., and destroyed at the Reformation. Recent excavations have exhumed numerous richly-carved tombstones in the graveyard contiguous to the parish church, evidently those that had marked the graves of the ancient dignitaries of the monastery. The abbey revenue 1562 was £1,234, 14s. 9d in money, and 182 chalders of victual. The classic hill of Dunsinane is situated about five m. s.w. of C., and the

dilapidated castle of the 'bold Pitcur,' who fell in the battle of Killiecrankie, 1689, is within two m. Pop. (1891) 2,106.

CUPAR-FIFE, *kŭ'par.f.f*: royal, parliamentary, and municipal burgh, county town of Fifeshire, Scotland, near the middle of the peninsula of Fife, on the Eden, 9 m. from its mouth, 32½ m. n. of Edinburgh, and 14½ s. of Dundee. It lies in a beautiful vale, stretching e. and w., with a range of hills on the s., and a fertile country, with wooded eminences, on the north. It consists chiefly of two streets at right angles to each other. The chief manufactures are linens, bricks, and earthenware. A fortress of the Macduffs, thanes of Fife, anciently stood on a mound called the Castle Hill, at the e. end of the town. In former times, religious shows, mysteries, or moralities, were acted on a green esplanade in front of the castle, still called the Play-field. There was acted also the *Three Estates*, a celebrated satire on the priesthood, which hastened the religious revolution, and was written by Sir David Lindsay, whose estate of the Mount was near the town.—Pop. (1881) 5,010; (1891) 4,729.

CUPEL, n. *kŭ'pĕl* [L. *cupella*, a little cup; F. *coupelle*, the little pot in which goldsmiths fine their metals—from *coupe*, a cup]: a small cup-like vessel, very porous, used in refining metals. CUPELLATION, n. *kŭ'pĕl-lā'shŭn*, the process of refining gold or silver by the cupel; a method of removing a more oxidizable metal from one less so (e.g. lead from silver), the oxidizing of the inferior metal being carried on by means of a blast of air—the fused oxide sinking into the porous cupel: see ASSAY.

CUPELLA'TION is the process of the separation of one metal from another (as lead from silver) by the use of a CUPEL highly heated in a muffle furnace: see ASSAY.

CUPHEA, n. *kŭ'fĕ-a* [Gr. *kuphos*, curved, in reference to the form of the capsule]: genus of perigynous exogens, order *Lythraceæ*, tribe *Lythreæ*.

CUPID, n. *kŭ'pĭd* [L. *Cupīdo*, Cupid—from *cupīdo*, desire]: the boy-god of love in anc. Roman mythology. The genealogy of this meddlesome divinity is rather confused. Sometimes he is represented as the son of Vulcan and Venus, or of Mars and Venus; at other times the mythologists seem at a loss to name his father, and make him spring from the sea-foam, like Venus herself. As among the Greeks, the myth of Eros gave birth to numerous *Erotes* or Loves, so at Rome, that of C. originated a legion of Cupids, who all possessed the same attributes as their prototype. Every one knows what these were: the bow, arrows, quiver, and wings. Often a bandage covered the eyes. The appearance was that of a chubby child, or youth with a malicious smile. His darts could pierce the fish at the bottom of the sea, the birds in the air, and the gods in Olympus. The immensity of space was his home, but like his mother, he specially loved the flowery thickets of Cyprus.

CUPIDITY, n. *kŭ-pĭd'ĭ-tĭ* [L. *cupīditas*, a longing desire: It, *cupīdita*: F. *cupidité*—from F. *cupide*, greedy—

from *L. cupidus*]: an eager desire after the possession of wealth or power; avarice; greediness.

CUPOLA, n. *kū'pō-lă* [F. *coupole*—from It. *cupola*, a round vaulted chapel behind the chancel—from *cupo*, deep, hollow: a dim. of *L. cupa*, a cup, from its cuplike shape]: an arched vault, hemispherical, or of any other curve, on the top of an edifice; a round top or dome, sometimes of glass, shaped like a half-globe: see DOME: V. to make in the form of a dome; to cover a war-ship with plates of iron in the form of a half-globe or dome. CU'POLA'ING, imp. -lă'ing. CU'POLAED, pp. a. -lăd, having a hemispherical roof or covering.

CUPOLETTE, n. *kū'pō-lět'* [a dim. of CUPOLA, which see: *L. cu'pula*, a little cup—from *cupa*, a cup]: a game for outdoor amusement, in which the players have seven wooden pins fixed in the ground, each having a cup and a movable ball on its top.

CUP'PING: application of cups, from which the air has been exhausted, to the skin with the object of causing congestion or excessive fulness of the cutaneous blood-vessels; and if it should be thought desirable to withdraw some blood, the skin may be cut or scarified, and the exhausted cups applied over the incisions, to favor its flow.

C. has been a part of surgical practice from earliest times, and instruments for performing it have been found in use among the least civilized nations. Of old, the cups were either small horns, open at both ends, from which the air was withdrawn by suction at the narrow extremity, or glasses of various shapes, with a small hole in the bottom of each. This hole was plugged with wax, the air exhausted by heat, and when the operator wished to remove them, he withdrew the plug, and allowed the air to enter. The modern cups are of glass, with round or oval mouths, and closed bottoms. Some have small sockets for holding cotton wick in their interior.

The principal improvements have been in the methods of incising the skin. This used to be effected with a common lancet or narrow knife, with a short blade and convex edge, set in a long elastic handle, which the operator struck rapidly with his finger, so as to drive the blade 26 or 30 times into the skin.

This was so tedious an operation, that a number of similar blades were used at once. These are contained in a box which has slits pierced in it corresponding to the number of blades; the latter can be caused to emerge at these slits by turning a handle, or more rapidly by setting free a spring, which causes them to revolve suddenly, and in doing so protrude at the slits more or less, according to the will of the operator. The operation is thus performed: The scarificator, glasses, torch, spirits of wine, and a lighted candle are placed ready at hand; the part is sponged with hot water, to cause an increased flow of blood into it, then dried with a warm towel; the torch, previously saturated with the spirits of wine and lighted, is held for an instant in one of the glasses, which is now clapped on to the skin. The number of glasses depends on the quantity

CUPREOUS—CUPULA.

of blood it is thought desirable to abstract; each one will probably withdraw from three to five ounces. When the skin under the glass has become red and swollen, the cupper removes it, applies the scarificator, and as rapidly as possible again exhausts the air from the glass, and claps it on again. The blood will now flow into it; and when enough has been taken, the glass is removed, and some lint applied to the wounds. This apparently simple proceeding requires considerable skill, so that C. is practiced as a separate profession in large towns, and the medical boards of the public services require that candidates for their appointments should produce a certificate of having received special instruction in the art. The difficulties consist in regulating the depth of the cuts, for should they be either too deep or too shallow, the blood will not flow. If the glasses be completely exhausted of air, their rims hurt the patient, and the blood will not flow, and it has happened that arteries or large veins have been wounded by ignorant operators.

There are many modifications of the ordinary C. apparatus, but all on the same principle.

Dry C. is simply applying the cups as described, but not wounding the skin. The ancients had a high opinion of this method, as they believed the 'noxious humors' were drawn forth of the body into the cups; and it need scarcely be added that extempore cups may be found in tumblers, finger-glasses, or any air-tight vessel with a smooth rim.

CUPREOUS, a. *kū'prī-ūs* [L. *cuprēūs*, of copper—from *cuprum*, copper: It. *cupreo*]: of or like copper; coppery.

CUPRIFEROUS, a. *kū-prīf'ēr-ūs* [L. *fero*, I bear]: yielding copper—applied to veins, rocks, etc., containing ores of copper. CU'PRITE, n. *-prīt*, the red oxide of copper.

CUPRIC, a. *kū'prīk*, applied to an oxide of copper, and CUPROUS, a. *kū'prūs*, to its corresponding salt.

CUPRESSITES, n. plu. *kū-prēs'īts* [L. *cupres'sus*, the cypress-tree]: in *geol.*, a general term for all coniferous remains which are allied to those of the existing cypress, or identical with them.

CUPROID, a. *kūp-royd'* [L. *cuprum*, copper: Gr. *eidōs*, form]: resembling copper: N. a crystal of the tetrahedral type, with twelve equal angles.

CUPULA, n. *kū'pū-lă*, or CU'PULE, n. *-pūl* [L. *cūpŭla*, a little cup—from *cūpa*, a cup]: in *bot.*, an external covering to a fruit formed of modified bracts, as in the oak, in which the cupule is the cup of the acorn, in the hazel in which it is the husk of the filbert. CU'PULIF'EROUS, a. [L. *fero*, I bear]: bearing cupules. CUPULIFERÆ, or CORYLACEÆ, nat. ord. of exogenous plants, consisting of trees and shrubs, natives of temperate climates. The leaves are alternate and furnished with stipules. The male flowers, sometimes also the female flowers, are disposed in catkins (and this order is regarded by many botanists as a sub-order of AMENTACEÆ, q.v.); the stamens are 5–20, inserted into the base of scales or of a membranous per-

CUR—CURAÇOA.

ianth; the ovary is crowned by the rudiments of a persistent perianth, and surrounded by a cupule of various figure; there are several cells and ovules, but the greater part of the ovules are abortive; the fruit is a 1-celled nut, more or less inclosed in the cupule; the seed is usually solitary; the embryo large, with fleshy cotyledons and minute superior radicle.—This order contains many of the most important trees of Europe and America, including all the different kinds of oak, beech, chestnut, and hazel, the hornbeam, etc. Many species are natives also of tropical countries, but only at considerable elevations.

CUR, n. *kér* [Dut. *korre*, a house-dog: prov. Sw. *kurre*, a dog: Icel. *kurra*, to murmur: Dan. *kurr*, to woo, to whirr: comp. Gael. *caora*, a sheep, a worthless dog: Welsh *cor*, a dwarf, anything small; *corgi*, a small dog]: name given sometimes indiscriminately to small dogs of any kind not highly valued, and in this way often appropriated particularly to dogs of mongrel or degenerate breed; but used also by naturalists as the common designation of many races, of which the terriers (q.v.) may be considered as type; all of them of small size, and exhibiting in a high degree the capacity for domestication, along with activity and sagacity. These races are distributed over all parts of the world, and differ considerably from each other, and are found domesticated even among very rude and savage tribes. The Pariah dog of India is reckoned among them, and exists in that country both in a wild and in a domesticated state; its body is more lank than that of the cur races of Europe, as are also the dogs that infest the streets of towns in Turkey, Persia, etc. The curs may have been the first domesticated dogs. CUR'RISH, a. *-rîsh*; CUR'-LIKE, a. like a cur; having the qualities of a cur.

CURABLE, CURABILITY, etc.: see under CURE.

CURAÇOA, *kû-ra-sô'* or *-sô'a* or CURAÇAO, *kô-râ-sâ'o*: most important of the Dutch W. India Islands which lie near the n. coast of Venezuela, in the Caribbean Sea. Pop. (1900) Curaçoa, 30,828; Bonaire, 5,086; Aruba, 9,702; Netherlands part of St. Martin, 3,174; St. Eustatius, 1,334 and Saba, 2,117; entire pop. 52,301, all free. The people nearly all are Rom. Cath. One-third are emancipated negroes. The cap. of C. is Willemstad or Curaçoa, a very handsome town on the bay of St. Anna; pop. 13,000. The soil of C. and its dependent islands is less productive than that of other tropical lands. The exports are maize, beans, cattle, salt, phosphate of lime, red dye-wood, charcoal, bricks, and fruits. Goat, kid, and deer skins are exported in large numbers. Provisions have to be imported, to some extent, so poor is the soil; though tamarinds, bananas, cacao, oranges, sugar, tobacco, and maize are grown. The trade is mainly with the United States. C. (spelled also *Curassou*) was discovered by Spain 1527, taken by the Dutch 1634, conquered by the English 1807, and restored to Holland 1815.

CURAÇOA, n. *kû-râ-sô'* or *kû'râ-sô'ă* [from the island of *Curaçoa*, where first made]: liqueur, made either from the

CURAÇOA ORANGES—CURASSO.

small oranges called C. oranges, or from orange-peel, by digesting in sweetened spirits, with a little cinnamon, and often a little mace or cloves. The spirits used are generally reduced to about 56 under proof, and contain about $3\frac{1}{2}$ pounds of sugar per gallon. C. is often colored by digesting in it for a week or ten days a little powdered Brazil wood, and mellowing the color by means of burned sugar.

CURAÇOA ORANGES: small oranges which have fallen from the tree long before maturity. They have properties similar to those of orange peel, but are more bitter and acrid.

CURARE, or **CURARI**, *kū-rá'rē* [from a native name]: South American arrow-poison which completely paralyzes the motor nerves; also spelt *URA'RI* or *WOORA'RA*, and *WOURA'LI* or *WOORA'LI*. **CURA'RINE**, n. *-rĭn*, the active principle of curare.—It is by means of this poison that the small arrows shot from the blowpipe (q.v.) become so deadly. Its nature and source remained long unknown, the Indians being very unwilling to reveal the secret, which seems, however, to have been at last obtained from them by Sir Robert Schomburgk, and it is now regarded as certain that the principal ingredient is the juice of the *Strychnos toxifera*, a tree or shrub of the same genus with that which yields nux vomica: see **STRYCHNOS**. It has a climbing stem, thickly covered with long spreading reddish hairs; rough, ovate, pointed leaves, and large, round fruit. The poison, when introduced into the blood, acts on the nervous system, and produces paralysis, with convulsive movements; and death ensues. It is supposed to be the most powerful sedative in nature. Artificial respiration is the most efficacious means of preventing its effects. It has been proposed to employ it in the cure of lockjaw and hydrophobia, and it has recently been asserted, as the result of experiment, that it can be very beneficially employed in the former disease. Like snake-poison, it is comparatively inert when taken into the stomach: see **WOORALI**.

CURASSO, n., or **CURASSOW**, *kū-rās'sō*, also *Hocco* (*Crax*): genus of large gallinaceous birds of the family *Cracidae*, having a strong bill surrounded at the base with a skin—sometimes brightly colored—in which the nostrils are pierced, and the head adorned with a crest of feathers curled forward, which can be raised and depressed at pleasure. The species, which are not numerous, are natives of the forests of the warm parts of America. They congregate in flocks, and although they live much among the branches of trees, their habits greatly resemble those of domestic poultry. They are very unsuspicious of danger, until taught by severe experience; and are easily domesticated. The best known species (*C. Alector*) is about the size of a turkey, its plumage is almost entirely black. It is abundant in the forests of Guiana. Its flesh is very good eating. It is kept in poultry-yards in S. America, and was introduced into Holland at the close of last century, where

it seemed completely acclimated, but the stock was lost



Galeated Curassow.

amid the troubles which ensued on the French Revolution.

CURATE, n. *kū'rāt* [mid. L. *curātus*, a priest, a curate: L. *curātor*, he who cares for—from *curārē*, to take care of: It. *curatore*; F. *curateur*, a guardian: F. *curé*, a parson, a curate]: one who has the cure or care of souls, in which sense the term is used in the Church of England Prayer-book, 'all bishops and curates.' It is, however, generally used to denote the humblest degree in the Church of England. A C., in this sense, is a minister employed by the incumbent of a church (rector or vicar), either as assistant to him in the same church, or else in a chapel of ease within the parish belonging to the mother church. He must be licensed and admitted by the bishop of the diocese, or by an ordinary having episcopal jurisdiction, who also usually appoints his salary. Any C. that has no fixed estate in his curacy, not being instituted and inducted, may be removed at pleasure by the bishop or incumbent. In general, the salaries of curates, certainly the most defenseless and the hardest-worked, and not the least devoted of the English clergy, are shamefully small; and reform in this matter is urgently required. **PERPETUAL CURATE**, one appointed where tithes are inappropriate, and no vicarage was ever endowed; such curates are not removable, and the impropiator is obliged to maintain them. **CU'RACY**, n. *-rā-sī*, the office or employment of a curate. **CU'RATESHIP**, n. the office of a curate; a curacy. **CURA'TOR**, n. *-rā'ter*, one who has the care or superintendence of anything; a guardian or trustee. **CURATORY**, n. *kū'rā-tēr-ī*, the persons employed as curators. **CURATOR BONIS**, *kū-rā'tōr bō'nīs* [L. *curātor*, he who cares; *bōnīs*, for the goods]: a guardian or trustee over property; in *Scot*, an officer appointed by the court to manage the property of a person who is unable temporarily or permanently to undertake its management: see **GUARDIAN**.

CURB—CURD.

CURB, n. *kèrb* [F. *courber*, to bend, to crook—from F. *courbe*, a curve—from L. *curvus*, crooked: Gael. *crup*, to crouch: Manx, *crib*, to curb]: the flat iron chain fastened to the upper part of the branches of a bit; a check; restraint; hindrance: V. to guide or restrain by a curb, as a horse; to check or restrain; to hold back; to keep in subjection. **CURB'ING**, imp. **CURBED**, pp. *kèrbd*. **CURB'LESS**, a. **CURB-BIT**, stiff-bit having branches by which leverage is obtained upon the jaws of a horse. **CURB-ROOF**: see **MANSARD ROOF**. **CURB-STONES** [comp. Gael. *cearb*, a fringe, a skirt]: a row of stones along the edge of a pavement, or skirting it; in *Scot.*, also written *kèrb* or *kirb*.—**SYN.** of 'curb, v.': to restrain; repress; control; check; bow; subject: subdue; confine.

CURB: disease in horses; strain of the straight ligament which runs down the back of the hough; most frequent in animals with straight small houghs and that conformation known as *sickle hams*; while like other strains it occurs from sudden and violent exertion, often proceeding in the lighter breeds from leaping or galloping in heavy ground, and in the heavier, from the effort of keeping back a load while going down a steep incline. Swelling appears on the inner and back part of the joint, generally causing lameness, which is most apparent in trotting, and, in slight cases, usually wears off after the animal has been out for ten minutes. Fomentations must first be used to allay the irritation and inflammation; when heat and tenderness disappear, cold applications will be advisable; when, after ten days, the enlargement still continues, a blister may be necessary; while, from the first, all work must be forbidden.

CUR'CAS: see **PHYSIC NUT**.

CURCU'LIO: see **WEEVIL**.

CURCULIONIDÆ, n. *kèr-kū-lī-ōn'ī-dē* [L. *curculio*, gen. *curculionis*, and suf. *-ida*]: large family of insects, tribe *Tetramera*, sub-tribe *Rhyncophora* (Snout-bearing Insects): see **WEEVIL**.

CURCUMA, *kèr'kū-mā* [Arab. *kurkum*]: genus of plants of the nat. ord. *Scitamineæ*, having the tube of the corolla gradually enlarged upward, and the limb two-lipped, each lip three-parted. The species are stemless plants, with palmate tuberous roots, natives of the E. Indies. The dried roots of some are the Zedoary (q.v.) of the shops; the roots of others yield Turmeric (q.v.); some yield a kind of Arrow-root (q.v.). The same species often yields both arrow-root and turmeric, the former from the young roots, the latter from the old.—*C. Amada* is called **MANGO GINGER**. Its root when fresh has the smell of a mango, and in its qualities resembles ginger. It is a native of Bengal.

CUR'CUMIN: see **TURMERIC**.

CURD, n. *kird* [W. *crwd*, a round lump: F. *crottes*, the lumpy dung of sheep: AS. and Scot. *crud*, coagulated milk—the old spelling *crud* is more true to the origin: Gael. *gruth*; Ir. *cruth*, curds: comp. Gael. *gruthach*, coagulated]:

CURE—CURIOUS.

the cheesy matter or coagulum that separates from milk on the addition of rennet or an acid; any coagulated matter: V. to turn to curd. CUR'DING, imp. CUR'DED, pp. CUR'DY, a. *-dĭ*, like curd; full of curd. CURDLE, v. *kĕr'dl*, to thicken or change into curd; to coagulate; to stagnate or congeal. CURDLING, imp. *kĕr'dlĭng*. CURDLED, pp. *kĕr'dld*: ADJ. coagulated; congealed.

CURE, n. *kūr* [F. *cure*, care, doctoring—from L. *cura*, care, pain; mid. L. *cura*, the care of souls: It. *cura*]: the act of healing; restoration to health; a remedy for a disease; a care of souls; the spiritual charge of a parish; the parish itself: V. to heal; to restore to health; to remedy; to remove an evil; to salt, pickle, or dry for preservation. CU'RING, imp. CURED, pp. *kūrd*. CURE'LESS, a. that cannot be cured. CU'RER, n. *-rĕr*, one who cures; one who prepares salted or cured fish or flesh, as *fish-curer*. CU'RABLE, a. *-ră-bl*, that may be healed. CU'RABLENESS, n. CU'RABIL'ITY, n. *-bĭl'ĭ-tĭ*, possibility of being cured. CU'RATIVE, a. *-ră-tĭv*, tending, or having the power, to heal.

CURFEW, n. *kĕr'fū* [F. *couvre-feu*; OF. *covre-feu*, cover-fire—from OF. *covrir*, to cover; F. *feu*, fire]: in ancient times in Europe, the ringing of an evening bell, as a signal to the people to cover up fires, put out lights, and retire to rest. To William the Conqueror is ascribed the introduction of the C. bell into England. The time for ringing these bells was sunset in summer, and about eight o'clock in winter; and certain penalties were imposed upon those who did not attend to the signal. The practice of ringing the C. bell appears to have prevailed throughout Europe long before the era of the Norman Conquest, its object being protection against fires then so frequent and destructive, owing to dwellings being chiefly of wood. The custom of ringing the C. bell at eight or nine o'clock, is still continued in many parts of England, and has lingered in parts of New England, though its original significance has long been lost.

CURIA, n. *kūr'ri-ă* [L. *curia*, the senate or senate-house]: in *anc. Rome*, the senate or senate-house; the assembly of the counts and prelates of the empire; the pope with his council, or *ex cathedrâ*, as head of the church; any ecclesiastical court or authority. CURIAL, *kūr'ri-ăĭ* [It. *curiale*, a lawyer]: in *Italy*, a lawyer: ADJ. of or belonging to the curia.

CURIA, *kūr'ri-a*, in Ancient Rome: division of a tribe, according to the constitution of Romulus; a wardship comprising 100 households: see ROME (History).

CU'RIA MU'RIA ISLANDS: see KOORIA MOORIA ISLANDS.

CURIOLOGIC, a. *kūr'ĭ-o-lŏj'ĭk* [Gr. *kuriologikos*, speaking or describing literally—from *kuriōs*, strict, literal, and *logos*, a word]: a rude kind of hieroglyphics, in which things are represented by their pictures.

CURIOUS, a. *kūr'ri-ŭs* [OF. *curios*, careful—from L. *curĭōsus*, full of care, inquisitive—from *cūra*, care, attention: It. *curioso*; F. *curieux*, curious, inquisitive]: strongly desirous

CURISCHES HAFF—CURLEW.

to know or see; inquisitive; prying; wrought with elaborate care and art; difficult to please; singular; rare. CU'RIOUSLY, ad. -lĭ. CU'RIOUSNESS, n. CU'RIOUSITY, n. -ōs'ĭ-tĭ, a strong desire to see or to know; that which excites a desire of seeing; a rarity. CURIOSO, n. *kū'rĭ-ō'zō* [It.]: one fond of collecting rare and curious articles; a virtuoso.

CURISCHES HAFF: see KURISCHES HAFF.

CURL, n. *kĕrl* [formerly written *crull*: Dut. *krul*; old Dut. *krol*; Low Ger. *krukel*, a curl—from the sense of a vibratory movement, and thence of a spiral or twisted form: Ger. *kollern*, to rumble: Dut. *krullen*, to crumple]: a ringlet of hair or anything like it; a disease of potatoes in which the leaves of the stalks are curled: V. to turn, form, or bend into ringlets, as the hair; to twist; to coil; to rise in twisting or sinuous waves; to play at the game of curling. CUR'LING, imp.: ADJ. rising in wreaths or undulations. CURLED, pp. *kĕrld*. CURLY, a. *kĕr'ly*, having curls; full of ripples. CUR'LINESS, n. CUR'LINGLY, ad. -lĭ. CUR'LING-TONGS or -IRONS, an instrument for curling the hair. CURLY-HEADED, having hair curled naturally.

CURLEW, n. *kĕr'lu* [the name imitative of the shrill cry of the bird: F. *courlis* or *courlieu*: OF. *corlieu*: It. *chiurlo*], (*Numenius*): genus of birds of the order *Grallatores*; of the same family (*Scolopacidae*) with the snipe, woodcock, avocet, stilt, godwit, etc. The bill is long, slender, curved, and compressed; the face and head are feathered; the legs are slender, and part of the *tibia* is naked as well as the shank; the tail is short, and the folded wings extend about as far as the tail. The common C. (*N. arquata*), the *Whaup* of the Scotch, is a bird of wide geographic distribution,



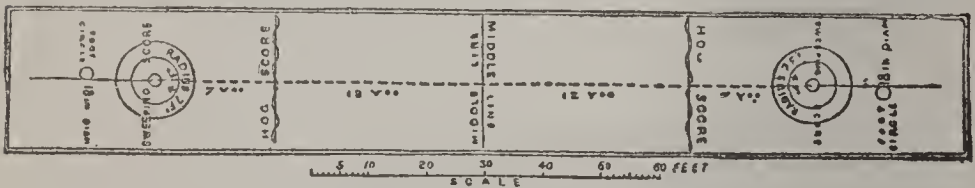
Common Curlew (*Numenius arquata*).

found in tropical, temperate, and arctic regions of the old world and in Australia; frequenting sea-shores in winter, and elevated moors in summer. Its peculiar cry or whistle is among the well-known characteristics of many upland scenes. It feeds on worms, mollusks, and insects. Its long bill enables it to seek its food in marshy or boggy ground. It builds a slight nest of leaves or other dry ma-

CURLING.

terials, in some tuft of rushes or among long grass or heath, in which four eggs are laid. The C. is good eating.—The WHIMBREL (*N. phæopus*) is a smaller species of C., much resembling the Common Curlew; also very widely distributed in the old world; it frequently occurs on the shores of Britain, but seems to breed only in the most northerly moors. N. America has several species of C., some of which extend their summer migrations to very northerly regions. The ESQUIMAUX C. (*N. borealis*) is sometimes seen migrating in dense flocks.

CURLING, n. *kér'ling* [said to be a mere corruption of Ger. *kurzweil*, a game (see CURL)]: in *Scot.*, a winter outdoor game played with smooth stones on the ice. CUR' LERS, n. plu. players at the game of curling.—Frozen lakes and rivers serve for the game; but under the auspices of C. clubs, artificial shallow ponds are maintained for this popular national sport, and the set matches are contested with immense spirit. The sport is regulated by a body of rules issued by a central association called the Caledonian Curling Club, which has grand matches in which hundreds are engaged at least once, if possible, every winter. A pleasing peculiarity of C. is, that it produces a thorough mingling of ranks—peers, peasants, clergymen, farmers, country gentlemen, and tradesmen, all mingling hilariously and familiarly for the occasion. The sport belongs particularly to the s.w. division of Scotland. Latterly, it has migrated to England, Canada, and the United States, where Scotsmen can find ice of sufficient strength and keenness. C. is played with flattish circular hard stones,



The Rink.

about nine inches in diameter, prepared by stone-hewers, each stone weighing from 30 to 45 lbs. Each of the players has a pair. The stones are provided with handles, to enable the player to hurl them on the ice with the proper degree of force. As at bowls, the stones are hurled to an assigned point or mark. The game is as follows: Sides are made up, usually consisting of four against four, with a director styled *skip* for each; after which a certain area of ice, 30 to 40 yards in length, and eight or nine ft. across, is chosen. This is called the *rink*. Certain marks are then made at each end of the rink, consisting of several concentric rings, called *broughs*, and a centre, called the *tee*. A certain number is game, usually 31. One on each side plays alternately. The chief object of the player is to hurl his stone along the ice, toward the tee, with proper strength and precision; and on the skill of the players in placing their own stones in favorable positions, or in driving rival stones out of favorable positions, depends nearly all the interest of the game. At a certain distance from each of

CURMUDGEON—CURRACH.

the tees, a score—the *hog-score*—is drawn across the ice, any stone not driven beyond this mark, counts nothing, and is laid aside. For laws of C., and general remarks, see *The Channel-Stane*, and two reprints, published by Mr. Cameron of Edinburgh in 1883.

CURMUDGEON, n. *kér-mŭj'ŭn* [probably from *corn-mudgin*, a dealer in corn—such persons in former times being supposed to keep up the price of corn from avarice: *mudgin*—from OF. *muchier*, to hide, to conceal—*lit.*, one who withheld or hoarded up corn]: an avaricious, churlish fellow; a miser; a griping, disagreeable man. **CURMUDGEONLY**, ad. *-lŭ*, in an avaricious, churlish manner. *Note.*—Dr. Mackay gives the origin of this word from Gael. *cearr-muigean*, a wrong-headed, perverse fellow—from *cearr*, wrong, perverse, and *muigean*, churlish.

CURMURRING, n. *kér-mēr'rĭng* [an imitative word]: a rumbling sound, as in the stomach.

CURRACH, n. *kur'rak*, *ch* guttural in Scotch; also **CORACLE**, *kör'a-kl* [Celt. *corog*, *curach*; L. *curuca*, *carrocium*, *carabus* (see **CORACLE**)]: in *Scot.*, and in *Britain* generally, a small skiff; a small boat of wicker work, covered anciently with the skins of animals; now a boat of wicker-work, or of a slender frame of wood, covered with tarred canvas. Skiffs of this sort, as well as canoes hollowed out of the trunks of oaks, were in use among the Britons in the earliest times of which we have record. Julius Cæsar, who built some of them after the British model, tells us that the keel and gunwales were of light wood, and the sides of wicker, covered with hides. Similar descriptions are given by Pliny, Lucan, Solinus, Festus Avienus, Sidorius Apollinaris, and others. The first occurrence of the name seems to be in Gildas, who wrote in the 6th c.; he speaks of the C. as in use among the Scots and the Picts. A long voyage in the North Sea, made in a C., during the same century, by one of the companions of St. Columba, is commemorated by Adamnan (died 704). In

878, three Irish missionaries sailed in a C. from Ireland to Cornwall; the voyage occupied seven days; and the size of the C. is indicated by the remark that it was one of two skins and a half. An old life of St. Patrick speaks of a C. 'of one skin, with neither helm nor oar.' The C. of a larger size had a mast and sail. The C. still continues in use on the Severn, and on many parts of the Irish coast, especially on the shores of Clare and Donegal. The last C. known to have been used in Scotland is in the museum at Elgin. It was employed on the Spey, toward the end of last century. Shaw, whose *History of Moray* was published 1775, when the C. had be-



Modern Coracle.

...tory of *Moray* was published 1775, when the C. had be-

CURRAN—CURRANT.

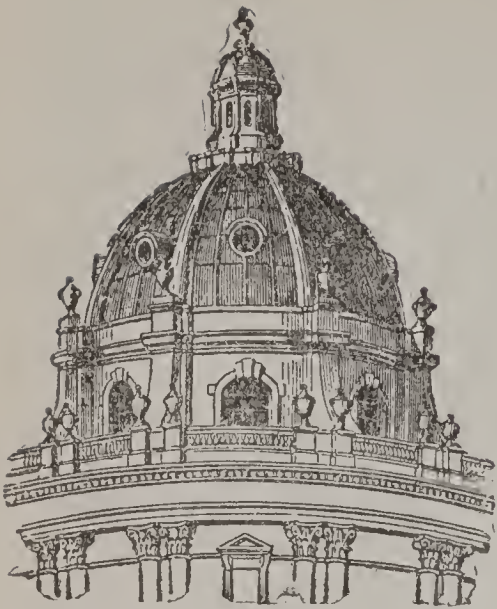
come rare, thus describes it: 'It is in shape oval, near three ft. broad, and four long; a small keel runs from the head to the stern; a few ribs are placed across the keel, and a ring of pliable wood around the lip of the machine. The whole is covered with the rough hide of an ox or a horse; the seat is in the middle; it carries but one person, or, if a second goes into it to be wafted over a river, he stands behind the rower, leaning on his shoulders. In floating timber, a rope is fixed to the float, and the rower holds it in one hand, and with the other manages the paddle. He keeps the float in deep water, and brings it to shore when he will. In returning home, he carries the machine on his shoulders, or on a horse.' One who figures in the *Dunciad*—Aaron Hill the poet—by showing the Strathspey Highlanders how to make their timber into a navigable raft, hastened the disappearance of the C. from Scotland. For description of the C., as still used in Ireland, see the *Ulster Journal of Archaeology*, I. 32. A boat of bison skin, essentially the same with the British coracle, is in use among some of the Indians of N. America.

CURRAN, *kūr'an*, JOHN PHILPOT: 1750, July 24—1817, Oct. 14; b. Newmarket, county Cork, Ireland: legal and parliamentary orator. He was educated at Trinity College, Dublin; and in 1773, having resolved to adopt the law as a profession, went to London and entered himself at the Middle Temple. Two years later he was called to the Irish bar, where his humorous, flowery, and sarcastic speech secured him immediate success, which his attractive social qualities did much to extend. In 1782, he obtained a seat in the Irish parliament as member for Kilbeggan, his general policy being in unison with that of Grattan and the few other liberal members then in the house. In debate, C. was usually charged with the reply to opponents, for which important duty his ready speech and cutting retort admirably qualified him. But his sarcasm led him into several duels, in which fortunately little harm was done on either side. In 1788, he was in favor of the formation of Irish volunteers; and in subsequent years, he was constant and eloquent in his appeals to government to adopt a different policy toward Ireland, lest that which it was pursuing should drive the people to rebellion. Government gave no heed, and the rebellion of 1798 was the consequence. C. had retired from parliament before the Union, of which he was a warm opponent. He was appointed master of the rolls in Ireland 1806, resigning 1813. He died in London. C. is best remembered for his wit and gayety, of which many excellent examples are preserved in the various *Memoirs*, *Recollections*, etc., of him which have been published.

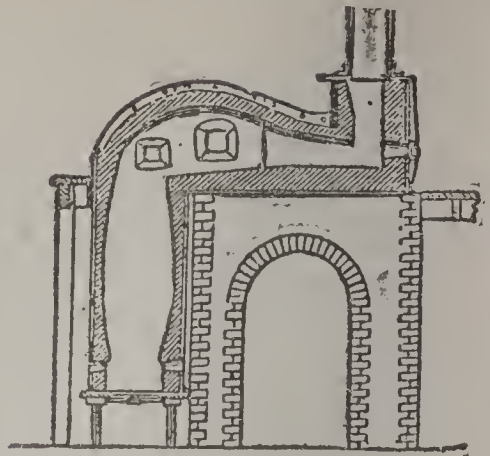
CURRANT, *n.* *kūr'rānt* [from *Corinth* in Greece, whence they were first brought: comp. Gael. *caor*, a berry; *caoran*, berries, particularly of the mountain-ash]: name originally belonging to a small kind of grape, and transferred, in consequence of the similar size of the fruit, to many species of the genus *Ribes*, which is the most

CURRANT.

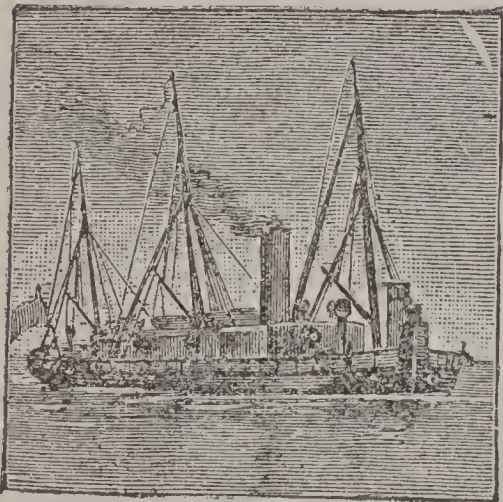
important and almost the only genus of the nat. ord. *Grossulariaceæ*. The species known as *currants* are destitute of spines, and have the flowers in racemes: the spiny species are known by the name **GOOSEBERRY** (q.v.). Among the fruit shrubs commonly cultivated is the **RED C.** (*R. rubrum*), *Grosseille* of the French, native of woods and thickets in the south of Europe, found also in parts of Asia and largely in N. America, perhaps rather a naturalized than a truly native plant in Britain. It has long been cultivated, though it does not appear that it had a place in the gardens of the ancient Greeks or Romans. The berries are used for dessert, for pies, and for jelly; also for making an agreeable and refreshing beverage, called in France *Eau de Grosseilles* (made of the juice of the fruit, water and sugar, strained, and iced), and a well-known fermented liquor called *Currant Wine* (q.v.).—The **WHITE C.** is a mere variety of the Red, result of cultivation, with fruit less acid, and more fit for dessert, generally also rather larger. There are many sub-varieties, and many intermediate shades of color. Both the Red and the White are trained either as standard bushes, or against walls, the latter treatment producing larger and finer fruit, and both are sometimes trained on a north wall, to retard their ripening till after the ordinary season. They grow readily, like the shrubs of this genus in general, from cuttings.—The **BLACK C.** (*R. nigrum*), *Cassis* of the French, grows in moist woods, and on the banks of streams in Europe and the north of Asia. The fruit is much larger than the Red C., and cultivation has lately produced varieties remarkable for size. There is a variety in Russia with yellow berries. The Black C. is not so much cultivated in Germany and Holland as the Red, and is comparatively neglected in England, but is to be found in almost every garden in Scotland. In the Hebrides and Shetland Islands the Black C. grows as luxuriantly, and bears fruit as abundantly as in any part of the world. The jelly and preserve made from it are useful for sore throats, as is also *Black C. Vinegar*, made in the same manner as Raspberry Vinegar. In Russia, the berries are gathered in large quantities in the woods, and dried in ovens, to be used in pies. They are tonic, also slightly diuretic and sudorific. A liqueur, called *Liqueur de Cassis*, is prepared in France from the Black C., the manufacture of which has recently acquired a great importance in the Côte d'Or and neighboring departments. The town of Dijon contains more than 30 manufactories, and produced recently, in one year, not less than 220,000 gallons, the wholesale price of which—of the best quality—was equal to abt. 57 cents per quart. Large tracts of land are planted with the Black C. to supply the liqueur manufactories.—Many other species of C., producing berries somewhat similar to those of the species cultivated, are found in temperate and cold climates in almost all parts of the world. One with beautiful red berries, larger than the largest English Red C., occurs on the Himalaya at an elevation of 13,000 ft.—The **RED-FLOWERED C.** (*R. sanguine-*



Cupola, Radclyffe Library, Oxford.



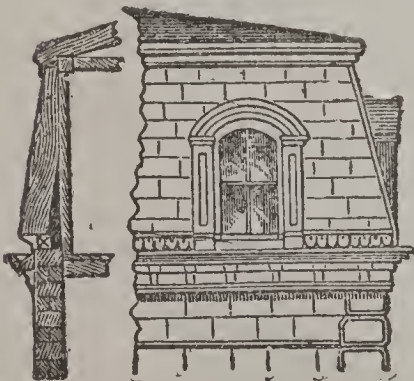
Cupola-furnace.



Cupola-ship.



Cupule.—1, Oak; 2, Hazel;
3, Hornbeam.



Curb-roof.



Curling-stone.

CURRATOW—CURRENCY.

curr), now common as an ornamental bush in shrubberies, and trained on walls, producing in April a profusion of deep-red flowers in large drooping racemes, is a native of the n.-w. of America. Its bluish-black, mucilaginous, insipid berries are not, as is popularly believed, poisonous.—The GOLDEN C. (*R. aureum*), also a very ornamental shrub, from the same regions, has a tubular calyx and long golden yellow flowers. Its fruit is either yellow or black, and of fine flavor.—The name NATIVE C., or AUSTRALIAN C., is given in Australia to the berries of different shrubs, particularly the white berries of *Leucopogon Richei*, of the nat. ord. *Epacridaceæ* (q.v.). The French naturalist Riche, who was attached to D'Entrecasteaux's expedition, supported himself mostly on these berries for three days, when he had been lost by his companions. Other fruits bearing the same name, though greatly inferior, are produced by species of *Coprosma* (nat. ord. *Cinchonaceæ*).

CUR'RANT WINE is made of the juice of red or white currants, to which is added about one pint of water for every four pints of berries employed. About a pound and a half of sugar is afterward added to each pint of the liquor, a little spirits also being generally added, before it is set aside to ferment. A larger quantity of sugar is sometimes used, and no water, and a stronger and sweeter C. wine is thus produced. Fermentation requires several weeks, and the wine is not fit for use for at least some months afterward. Black C. wine is made in the same way from black currants, but the fruit is put on the fire in as small a quantity of water as possible, and heated to the boiling-point before it is bruised. C. wine, well made, may challenge comparison with many products of the grape.

CUR'RANTS, a small kind of raisin (*Passulæ minores*), are the dried red or blue berries of a small-fruited seedless variety of the common vine, cultivated in the East, especially in Greece. They are very small, round, with a thin skin, without seeds, and very sweet. Those brought from the island of Zante are most esteemed. They are much used by bakers and cooks, entering into the composition of many kinds of cakes, puddings, etc. They are a principal article of export from Greece, and the failure of the crop is severely felt in that country. Currants are simply dried in the sun, on the ground, and then packed into barrels. In a few districts of Greece, a very sweet oily wine, called currant wine, is made from these currants.

CURRATOW, n. *kūr'ra-tow*: see BROMELIACEÆ.

CURRENCY, n. *kūr'rěn-si* [OE. *currant*, running—from OF. *curant*, running—from *curre*, to run: L. *currens* or *curren'tem*, flowing or running—from *currĕrĕ*, to run: It. *corrente*]: a continued course or passing of anything, like the running of a stream; a passing from person to person, or from age to age, as a report; a passing from hand to hand, as money or bills of credit; the whole *circulation* of money, or the whole *quantity* of money of every sort, is called *the currency*; anything in circulation as a medium of trade; general estimation or reception; the rate at which any

CURRENCY.

thing is valued. CUR'RENT, a. -*rěnt*, passing from person to person, or from hand to hand; circulating; common; general, generally received; passable; now passing: N. a flowing or passing; a stream; course; continuation; general course or tendency; movement. CUR'RENTLY, ad. -*lĭ*. CUR'RENTNESS, n. circulation; general reception.

CUR'RENCY: originally the capacity of being current, or, as Johnson defines it, 'the power of passing from hand to hand;' applied in practice to the thing that is so current, and generally to whatever, by being current among any nation or class of persons, serves as the money with which they buy commodities or pay their debts. It is necessary to be content with a practical explanation, without venturing on a scientific definition of the term, because, among the many disputed points in political economy, there is none productive of more exciting controversy than the proper regulation of the C.; and as the advocate of each theory is apt to define the term in the manner best suited to serve his own ultimate conclusions, his adversaries generally deny that his definition is sound. Whether correctly or not, it is applied in practice to everything that is received for payment. It differs from the word money, in its general acceptance, so far as it expresses only that which passes as money at some time or place referred to. The leading question among political economists regarding C. is, how far it should be restrained. The most effectual method of restraining it is by confining it to the precious metals. If in any country it were law that none but a gold C. should be used, and if, at the same time, there were no effort to tamper with this gold C., and give it an artificial value, the C. of that country would keep its value all the world over, because it has been paid for in commodities, and will be sold again whenever it is in excess of the needs of those who use it. But for this very reason, it is a very expensive C., and therefore, ever since man's ingenuity was turned to trade, methods have been devised for superseding gold or the other precious metals by something cheaper. Unless, however, law or custom intervenes to give it efficiency, this cheaper material will be worth only its own intrinsic value. A five-dollar banknote is worth so little in its intrinsic value as a picture upon thin paper, that such a value can hardly be expressed. It derives its power as C. from the obligation which it fixes on a great rich corporation to make good its professed amount to the holder. We thus pass from a purely bullion C. to the next step of restraint, generally called a mixed currency. Here some maintain that no note should be issued unless the banker or other person issuing it has in his possession as much bullion as will pay it. Others say it is sufficient that he is bound to pay its amount in bullion at the period of its demand without his actually possessing the bullion throughout the whole period of the C. of the note. A third party are for a C. entirely free of a metallic basis; they hold that naturally paper-money, passing from hand to hand, will represent transactions, and will therefore come in the end to be made good in some shape or other;

CURRENCY.

and they further hold, that if some losses should thus occur, these will be more than compensated by the rapid increase of trade and enterprise, caused by a free trade in C., as it is termed—that is to say, by every man issuing his own notes or promises to pay to whoever will take them. This last and extreme class of ‘currency doctors,’ as they have been termed, have lately been losing influence, and disappearing from the contest.

Through a succession of practical measures reached with considerable caution, the English have come to a mixed C., resting on a compromise between the two classes of mixed C. above referred to. In the theory of the measures brought to completion under Sir Robert Peel, 1844, it is admitted that, to a certain extent, a C. can be based on transactions and the property of those concerned in them, but that a limit must be drawn, to prevent the power of creating such a C. from running to excess, by the issue of notes which cannot be immediately made good by those who issue them. Accordingly, the several banks in existence were allowed to continue their note circulation, but they were permitted to increase it only on the condition of having bullion in their coffers to pay the additional notes issued by them. A C. which is not bullion, and is not worth its nominal value in bullion, is called a ‘depreciated currency.’ Before the resumption of cash payments, the notes of the Bank of England had sunk to be worth but 16s. in the pound, as compared with gold. A depreciated C. may be created by a government calling notes or any other form of money a legal standard, and issuing a greater quantity of them than the real transactions of the country and the property passing from hand to hand require; or it may be created by private persons acting under laws by which the right of issuing a C. is not duly limited. This faculty which a C. has of being depreciated without being repudiated, is the real source of danger in all proposals for an unfettered C., or a free trade in the issue of money. If the bank-notes for which bullion cannot be immediately obtained were repudiated, there might be a natural check on over-issues; but it is their nature, on account of the difficulty of getting bullion for them, or the chance that it may never be got, that they pass at a discount or reduction of their value. Hence such a C. would be ever shifting; there would be no permanent standard, and the person incurring a debt before a depreciation which he pays afterward would, in reality, be paying his creditor a dividend only. A depreciated C., however, is useful for small transactions. In the silver C. of Britain a pound is worth little more than four-fifths of a sovereign. If a person owing £100 could pay it in silver, he would really be paying only a dividend of from 16s. to 18s. in the pound; but by law, silver is not a legal tender for more than 40s. The copper C. is so far below its real value, that it has not been thought worth while to give it a permanent weight—the pence and halfpence now issued are little more than half the weight of those of former mintages; but they are

CURRENTS—CURRY.

used as a medium only for small sums, and the royal stamp is sufficient to establish a reliance on them.

In the United States, as in England, the C. is of mixed character. It was enormously increased in the issue of notes under the form of a loan to the government on the part of those who received them during the tremendous strain of the war against secession; at one time the obligation of the United States could be sold for only about 32 cents on the dollar. This depreciation soon passed away with the distrust that occasioned it; and the U. S. notes are recognized as good for gold to their value as expressed on their face. See BANK—BANKING: BANK OF ENGLAND: FINANCE: MONEY.

CUR'RENTS: see GULF STREAM: TIDES.

CURRICLE, n. *kŭr'ri-kl* [L. *currĭculum*, a career, a course—from *currĕrĕ*, to run: It. *curricolo*, a curricl[e]: an open carriage with two wheels, drawn by two horses abreast. CURRICULUM, n. *kŭr-rik'ŭ-lŭm*, the whole course of study at a school or university.

CURRIE, *kŭr'ri*, JAMES, M.D.: 1756, May 31—1805, Aug. 31; b. Dumfriesshire, Scotland: known for his edition of Burns's works, long the basis of all subsequent editions. He was educated for a mercantile life, but afterward studied medicine at Edinburgh Univ.; and settling in Liverpool, 1781, soon obtained a good practice. His chief medical work was, *Medical Reports on the Effects of Water, Cold and Warm, as a Remedy in Febrile Disease*. His edition of Burns (introduced by a criticism on his writings), which he undertook solely for the benefit of the widow and children of the poet, was published 1800, and realized £1,400.

CURRIED, CURRIER: see under CURRY.

CURRISH: see under CUR.

CURRY, v. *kŭr'ri* [OF. *couroier*; F. *corroyer*, to dress leather—from *corroi*, prepared skin—from L. *corĭŭm*, a hide: It. *corredare*, to prepare, to rig out: Sp. *conrear*, to dress wool—*lit.*, to dress or prepare materials]: to dress leather after being tanned (see LEATHER); to rub and clean a horse with a comb; to thrash; to chastise. CUR'RYING, imp.: N. the act of dressing skins after they are tanned; the act of rubbing down a horse. CUR'RIED, pp. *-rĭd*. CUR'-RIER, n. *-rĭ-ĕr*, a workman who dresses leather. CURRY-COMB, a kind of scraper used for rubbing, cleaning, and dressing horses; it consists of a number of iron plates notched on one edge to form rough teeth. These plates are fastened in parallel lines to an iron back, to which a handle is attached. To CURRY FAVOR [corruption of OE. *curry favel*—from F. *courroyer fauvel*, to rub the *fauvel* or horse]: to seek or gain favor by flattery or officious civilities.

CURRY, n. *kŭr'ri* [Pers. *khŭrdi*, broth, juicy meats]: a highly spiced condiment much used throughout India; a dish flavored with curry: V. to prepare with curry. CURRY-POWDER, or CURRY PASTE, compound of many in-

CURRY—CURSE OF SCOTLAND.

gredients for making curries. It consists of turmeric and various spices; it is used to a large extent in India and elsewhere as a seasoning for a variety of dishes. One of the best receipts for the compounding of C. P. is, turmeric powder, 6 oz.; coriander seed powder, 8 oz.; black pepper, 4 oz.; fenugreek, 2 oz.; ginger, 2 oz.; cayenne pepper, $\frac{1}{8}$ oz.; cummin seed, $\frac{1}{2}$ oz. Another process is to mix turmeric powder, 5 oz.; coriander seed powder, 3 oz.; black pepper, 1 oz.; ginger, 1 oz.; cayenne pepper, 1 oz.; scorched mustard, 2 oz.; mace, 2 drams. A third variety is obtained from turmeric powder, 8 oz.; coriander seed powder, 4 oz.; black pepper, 1 oz.; cayenne pepper, 1 oz.; scorched mustard, $\frac{1}{2}$ oz.; mace, 1 dram; cinnamon, 1 dram; cardamoms, 2 drams.

CURRY, *kür'ri*, DANIEL, D.D., L.D.D: 1809, Nov. 26—1887, Aug. 17; b. near Peekskill, N. Y.: Meth. Episc. minister and journalist. He graduated at Wesleyan Univ. 1837, became principal of the Troy Conference Acad. the same year, and prof. in the Ga. Female College 1839; entered the ministry of the Meth. Episc. Church in Ga. 1841, and was pastor in Athens, Columbus, and Savannah till the Slavery question separated the church; then joined the New York conference and preached in New York, Brooklyn, New Haven, and Hartford. He was pres. of Indiana Asbury Univ. 1854-57; editor of the *Christian Advocate* 1864-76; the *National Repository* 1876-80 and the *Methodist Review* from 1884 till his death.

CURRY, JABEZ LAMAR MONROE: an Amer. educator: 1825, June 5—1903, Feb. 12; was a rep. in congress from Ala., 1857-61; served in the civil war; was pres. of Howard Coll., 1866-68; Prof. of English Literature, Philosophy, and of Constitutional and International Law at Richmond Univ., 1868-81; U. S. min. to Spain, 1885-89; gen. agt. of the Peabody and the Slater Educational Funds; and special U. S. Com. at the coronation of Alfonso XIII. of Spain, 1902.

CURSE, v. *kërs* [AS. *corsian* or *cursian*, to execrate by the sign of the cross: Sw. *korsa*; Dan. *korse*, to make the sign of the cross—from Dan. and Sw. *kors*, a cross: Icel. *kross*, a cross]: to utter a wish of evil against one; to devote to evil; to imprecate evil upon; to execrate; to utter imprecations; to vex or torment. N. a malediction; a wishing of evil; great vexation or torment. CUR'SING, imp.: N. the uttering of a curse; execration: see INCANTATION: SWEARING. CURSED, pp. *kërst* or *kër'sëd*: ADJ. blasted by, or under the influence of, a curse; abominable; detestable; execrated. CUR'SER, n. one who. CUR'SEDLY, ad. *-lî*. CUR'SEDNESS, n. CURSED THISTLE, *Carduus arvensis*.—SYN. of 'curse, n.': imprecation; execration; anathema.

CURSE OF SCOTLAND: term applied to the *nine of diamonds* in a pack of playing cards. The origin of the phrase is uncertain. The probable explanation is, that it refers to the detestation entertained in Scotland toward John Dalrymple, first Earl of Stair, on account of his concern in the massacre of Glencoe, and for which he had to resign office, 1695. The heraldic bearing of this person

CURSIVE—CURSORINÆ.

was 'or, on a saltire azure, nine lozenges of the field;' these nine lozenges resemble the nine of diamonds; hence the popular phrase, the curse of Scotland.

CURSIVE, a. *kér'siv* [F. *cursive*—from mid. L. *cursiva*, a writing, a letter—from L. *cursus*, quick motion, a running: It. *corso*, a running; *corsivo*, cursive]: running, fluent. **CUR'SIVELY**, ad. -*lī*. **CURSORY**, a. *kér'sér-ĭ*, hasty; slight superficial; not with close attention. **CUR'SORILY**, ad. -*lī*, in a hasty superficial manner. **CUR'SORINESS**, n. **CURSIVE-HAND**, in *writing*, a running hand. **CUR'SITOR**, n. -*sī-tēr*, the clerk of course; an officer in the court of chancery whose business is to make out original writs. **CURSIVE LETTERS**, the small letters or characters of a running hand employed in writing mss. after the 9th c., as distinguished from *uncial* or large (capital) letters used in mss. before that date. *Cursives*, in Bib. criticism, refer to mss. in cursive letter, presenting different parts of the New Test.: of Gospels or portions of Gospels alone there are known over 600 Cursives dating from the 9th to the 16th c.; many have great value, though, as a whole, being less ancient than the *Uncials* they rank below them in authority. **CURSORY**, a. *kér'sō-rer-ĭ*, in *OE.*, cursory; hasty; careless—a word hardly legitimate.

CURSOR, n. *kér'sér* [L. a runner—from *cursus*, pp. of *curro*, I run]: inferior officer of the papal court; a part of a mathematical instrument which slides on the main portion, as the hand of a barometer, the slide of a Gunter rule, etc.

CURSORES, n. plu. *kér-sō'rēz* [L. *curro*, I run; *cursor*, a runner]: an order of birds comprising those destitute of the powers of flight, though their wings add speed to their running, as the ostrich, and emu, etc.; named from the adaptation of their legs and feet for running vigorously. The *dinornis* and *apyornis*, with other fossil C., were larger than any birds of existing species.

CURSORIA, n. *kér-sō'rĭ-a* [neut. plu. of *cursorius*, pertaining to a race-course]: sub-order of orthoptera containing those families which have the legs adapted for running, as distinguished from leaping.

CURSO'RIAL, a.: adapted or fitted for running. **CURSorial ISOPODA**, in the system of Milne Edwards, a sub-order or section of crustaceans, order *Isopoda*. There are three families—*Idotheidæ*, *Asellidæ*, and *Oniscidæ*. The wood-louse is a typical example of the cursorial isopods.

CURSORINÆ, n. plu. *kér-sér-ĭ'nē* [L. *cursorius*, and suf. -*inæ*]: sub-family of *Charadriadæ* (Plovers). **CURSORIUS**, *kér-sō'rĭ-ŭs* [L.]: genus of *Charadriadæ*, typical of the family *Cursorinæ*. *Cursorius Temminckii*, or *Isa bellinus*, is the Black-bellied Courier, or Cream-colored Courser, called by Selby the Cream-colored Swift-foot. It is a bird of creamy brown color, the top of the head and the breast ferruginous, a double collar, the upper white, the lower black, the sides white; length, including the bill, 8 inches, legs, 3 inches. Its native country is Africa.

especially Abyssinia, whence it has occasionally strayed as far as England

CURST, a. *kérst* [OE. *crus*, wrathful: F. *courroux*, wrath (see CROSS 2)]: ill-tempered; cross-grained; hence CRUSTY, a. *krüs'tĩ*, ill-tempered.

CURT, a. *kért* [L. *curtus*; F. *court*, short, little]: short; abrupt; brief and ill-natured; snappish. CURT'LY, ad. *-lĩ*. CURT'NESS, n. shortness.

CURT: in *letter-writing and commercial correspondence*, a common contraction of CURRENT, used to designate this month, that is, the month in which the letter is written, as 15th *curt*. INSTANT, *ĩn'stánt*, and its contr. INST. [L. *instans*, present]: denoting a day of the present or current month, as 10th *inst*. PROXIMO, *pröks'ĩ-mō*, or its contr. PROX. [L. *proximo*, on the next]: denoting a day of the next month, as, on the 4th *prox*. ULTIMO, *ũl'tĩ-mō*, or its contr. ULT. [L. *ultimo*, in the last]: denoting a day in the last month, or the month preceding the present, as, on the 6th *ult*.

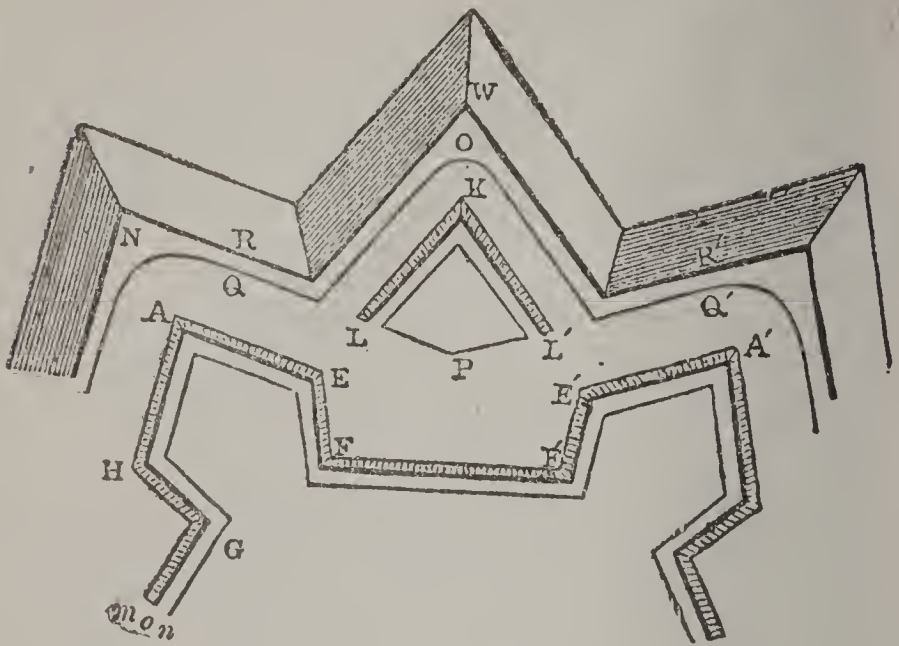
CURTAIL, v. *kér-tāl'* [F. *court*, short, concise; *tailler*, to cut]: to shorten; to cut off the end, or a part; to abridge or diminish. CURTAIL'ING, imp. CUR'TAILED', pp. *-tāld'*: ADJ. cut shorter; abridged. CURTAIL'MENT, n. a shortening of anything. CURTAIL'ER, n. one who. CUR'TAIL-DOG, a dog mutilated according to the forest laws to prevent him running down the royal game. CUR'TAIL-STEP, the lowest step in a flight of stairs, ending at its outer extremity in a scroll. CURTAIL-FRIAR, a tonsured friar, in reference to the cut or circular-shaven patch on the crown of the head. —SYN. of 'curtail': to abbreviate; contract; diminish. *Note*.—Skeat says, CURTAIL is from OE. *curtall* or *curtal*, having a docked tail—from OF. *courtault*, a curtal or docked tail: It. *cortaldo*, a horse without a tail.

CURTAIN, n. *kér'tĩn* [F. *courtine*—from mid. L. *cortina*, a wall between two bastions, a small inclosed yard: It. *cortina*, the hangings of a court: Wal. *cortu*, a tent]: a movable cloth hung round a bed, at a window, or in front of the stage at a theatre; any piece of movable drapery used for concealment or ornament; the part of a wall or rampart which joins the flanks of two bastions together: V. to in. close by means of curtains. CUR'TAINING, imp. CUR'TAINED, pp. *-tĩnd*. CUR'TAINLESS, a. To DRAW THE CURTAIN, to close a curtain so as to shut out the light or conceal an object. To RAISE THE CURTAIN, to commence. To DROP THE CURTAIN, to close the scene; to throw off the mask; to end. BEHIND THE CURTAIN, in concealment; in secret. CURTAIN LECTURES, the querulous and discontented talk of a wife to her husband while in bed with him.

CUR'TAIN, in Fortification: portion of rampart or wall between two bastions or two gates. In a regular siege, to batter down the C. is one of the main undertakings; and many of the external works constructed by the defenders are intended to frustrate, or at least embarrass, this operation.

CURTAL—CURTIS.

In the annexed cut, which shows a ground-plan of some of the elements of a regular fortification, FF' is the *curtain*; HAEF, a *bastion*. The component parts of the bastion are thus designated: AH and AE, two *faces*; EF and GH, two *flanks*; A, the *salient*; FG, the *gorge*; and H and



E, the *shoulders*. *mn* is the *rampart*; *mo*, the *parapet* on the rampart; QPQ', the *ditch*; NO, the *covert-way*; RWR', the *glacis*; KLL', a *ravelin*.

CURTAL, n. *kér'tāl* [see CURTAIL and note]: In OE., a docked tail: ADJ. having a docked tail; brief; abridged.

CURTATE, a. *kér'tāt* [L. *curtātus*, shortened, diminished]: in *astron.*, applied to denote a planet's distance from the sun, reduced to the plane of the ecliptic.

CURTICONE, n. *kér'tī-kōn* [L. *curtus*, docked; Eng. *cone*]: the lower frustum of a cone; a truncated cone (q.v.).

CURTILAGE, n. *kér'tī-lāj* [OF. *courtīlage*—from *courtīl*, a courtyard—from mid. L. *curtem*, a courtyard—from *cohortem*, a yard, a farm (see COURT)]: a house with its stables and farm-buildings surrounded by a piece of ground, the whole being included within the same fence; a house and homestead.

CURTIS, *kér'tīs*, GEORGE TICKNOR: jurist and author: b. Watertown, Mass., 1812, Nov. 28; brother of Benjamin R. C. of the U. S. supreme court, who was one of the two that dissented from the Dred Scott decision. C. was admitted to practice law 1836, became U. S. commissioner in Boston, returned to slavery the fugitive Thomas Sims, was for several years in the Mass. legislature, and removed to New York 1862. He has published digests of *Eng. and Amer. Admiralty Decisions* (1839) and of *Decisions of the Courts of Common Law and Admiralty in the United States* (1840-46); *Rights and Du-*

ties of Merchant Seamen (1841); *Amer. Conveyancer* (1846); *Law of Copyright* (1847); *Law of Patents* (1849 and '73); *Equity Precedents* (1850); *Inventors' Manual*; *Commentaries on the Jurisprudence, Practice, and Jurisd. of the Courts of the United States* (1854-58); *History of the Origin, Formation, and Adoption of the Constitution of the United States* (2 vols. 1855-58); *Life of Daniel Webster* (1870); *Life of James Buchanan* (1883); *McClellan's Last Service to the Republic*; and *Creation or Evolution* (1887). D. 1894.

CUR'TIS, GEORGE WILLIAM: American author: 1824, Feb. 24—1892, Aug 31; b. Providence, R. I. He received a common-school education at Jamaica Plains, Mass.; was a member, 1842-3, of the Brook-Farm Assoc. (q.v.) at W. Roxbury, Mass.; a farmer in Concord, Mass.; and, 1846, travelled in Europe, Syria, and Egypt; returning 1850, and taking an editorial position on the *Tribune*. From 1852 he was one of the editors of *Putnam's Monthly*, finally sinking a fortune in it; but nobly persevered in the work of paying off all the creditors. He edited the 'Easy Chair' of *Harper's Magazine* 1853-92, and from 1857 onward he was the chief editorial contributor to *Harper's Weekly*. In the lecture era he was a favorite throughout the country. He was unsurpassed in the music and grace of speech, as of writing, and in literary culture. For more than 30 years he was prominent as speaker and writer in the higher politics, and more or less independent of party. In 1860, 64, and 76, he was a member of the national repub. convention; 1867 of the constitutional convention of N. Y., and chairman of the committee on education; 1868 presidential elector. He declined a consul-generaiship to Egypt, a nomination as sec. of state of N. Y., and several important foreign missions. He was appointed, by Pres. Grant, a commissioner on rules of the civil service, and thenceforth was an advocate of that reform. In 1884 he opposed the repub. nomination of Blaine for the presidency, and became a supporter of Cleveland. He was (1864-92) one of the regents of the Univ. of the State of N. Y.; 1886 was elected vice-chancellor, and later chancellor. His published books are: *Nile Notes of a Howadji* (1851); *The Howadji in Syria* (1852); *Lotus-Eating* (1852), letters from summer resorts; *Potiphar Papers* (1853); and *Prue and I* (1856), the latter picturing the life of a clerk and wife; and *Trumps* (1862), a novel.

CURTIS, SAMUEL RYAN: 1805, Feb. 3—1866, Dec. 26; b. near Champlain, N. Y.: military officer; he graduated at the U. S. Milit. Acad. 1831, resigned the next year; followed civil engineering 1836-41, and the practice of law 1841-46; was appointed adjt.gen. of Ohio 1846, raised the quota of vols. for the Mexican war, took the field as col. 2d regt., held Camargo against heavy odds, opened Gen. Taylor's communications, and was gov of Saltillo 1847-8. He practiced engineering 1847-55, and law 1855-61; was member of congress from Io. 1857-61; volunteered for the relief of Washington 1861, became maj.gen. of vols. 1862,

CURTISIA—CURTIUS.

Mar. 21; served to the close of the war, chiefly in the w.; was commander of the dept. of the n.w. 1865, commissioner to negotiate Indian treaties 1865, and to examine the Union Pacific railroad 1865-6; and was mustered out of the vol. service 1866, Apr. 30.

CURTISIA, n. *kūr-tīs'ī-a* [named after William Curtis, founder of the *Botanical Magazine*]: genus of *Cornaceæ* (Cornels). It has a four-parted calyx. *Curtisia faginea*, is a large tree from the Cape of Good Hope, called the Assegai Tree, because the natives form their assegais (javelins) from its wood.

CURTIUS, *kôr'tse-ûs*, **ERNEST**: a distinguished German philologist and antiquary: b. 1814, Sep. 2, at Lübeck. After a good preliminary education at the High School of that place, he attended several German universities (Bonn, Göttingen, and Berlin) as a student of philology. In further pursuance of the path he had chosen—viz., the investigation of Greek antiquity—he went (1837), in company with Professor Brandis, to Athens, where he stayed several years. When his teacher, O. Müller (q.v.), came to Athens, C. accompanied him in his travels through Greece. On the death of Müller at Athens, 1840, C. returned to Germany, visiting many places in Italy by the way. He graduated in Halle, and after he had taught for some time at two Berlin gymnasiums, he received an extraordinary professorship of the univ. at that place. His *Anecdota Delphica Inscriptiones Atticæ Duodecim* and *The Akropolis of Athens* were published about this time. In 1844, he became tutor to the crown-prince of Prussia. Six years later, he returned to his academical office; in 1856, he was called to Göttingen; and in 1863, he was made ordinary prof. at Berlin, and permanent sec. of the Acad. of Sciences. In 1874, he was sent by the German govt. to negotiate a treaty with the Greeks, to permit its undertaking the important excavations at Olympia, begun 1875. His principal works are *Peloponnesos* (1852), a description of the country of Greece, with reference to its traditions, history, and monuments; *Attic Studies* (1864); and a *History of Greece*, translated into English by A. W. Ward (1868-76). Prof. GEORG C. (q.v.) is a brother of Ernest.

CURTIUS, **GEORG**: b. 1820, April 16, at Lübeck; brother of Ernest C.: distinguished classical scholar, who has acquired a high reputation for the light he has thrown on the Greek and Latin languages, by applying to them the comparative method. He studied at Berlin and Bonn. After a short activity at Berlin, and a longer stay at Prague and Kiel universities, he accepted (1862) the professorship of classical philology at Leipzig. Of his published works are to be noted *De Nominum Græcorum Formatione* (Berl. 1842); *Die Sprachvergleichung in ihrem Verhältniss zur Classischen Philologie* (Dresd. 1845); *Sprachvergleichende Beiträge zur Gr. und Lat. Gram.* (Berl. 1846); *De Nomine Homeri* (Kiel 1855). His *Griech. Schulgrammatik* (11th ed., 1875) is in high repute, and his *Grundzüge der Griech. Etymologie*

CURTIUS—CURUKU OIL.

(Leipzig 1862) is a most valuable contribution to that department of philology (Eng. trans., 1878). He d. in 1885.

CURTIUS, *kér'she-us*, **METTUS**, or **METIUS**: noble Roman youth who (according to tradition) heroically sacrificed his life for the welfare of his country, B.C. 362. A chasm, it is said, had opened in the forum, and the soothsayers predicted that some great calamity would happen if there were not thrown into it the best wealth of the state. While it was proposed to consult the oracles, and determine what this best wealth could be, C. appeared on horseback and in full armor, and exclaimed: 'Rome has no greater riches than courage and arms.' He then rode into the chasm, which immediately closed over him.

CURTIUS, **RUFUS QUINTUS**: Roman historian, author of *De Rebus Gestis Alexandri Magni*, in ten books, of which the first two have been lost, and the text of the remainder has come down to us in a damaged condition. Great differences of opinion have existed with regard to the time in which C. wrote, for his name is first mentioned by writers after the 12th c. Some critics have supposed that C. lived in the reign of Augustus; others, that he wrote in the 2d c., or under Constantine or Theodosius; while some regard the work ascribed to C. as a composition of the 13th c. The most probable opinion is that he lived in the time of Vespasian. The value of the work is as dubious as its authorship. C. had very inaccurate knowledge of geography, chronology, military tactics, astronomy, and historic criticism; hence his work is far from being trustworthy as a whole. The style, though declamatory, is on the whole pure and elegant. The first edition of C.'s history was published at Venice about 1471. Among modern editions are Mützell's (Berlin 1841) and Zumpt's (Brunswick 1849).

CURTLE AX, n. *kér'tl-äks* [F. *coutelas*, a short sword: prov. It. *cortelo*, a knife (see **CUTLASS**): in *OE.*, a form of sword now called a 'cutlass': also spelled in *OE.* **COUTEL-HACHE**, **COUTEL-AXE**, **COURTELAS**, **CURTAL-AXE**, and **CUTLELAS**.

CURTSEY, n. *kért'si*, **CURT'SEYS**, plu. *-síz*—or **CURTSY**, n. *kért'si*, **CURT'SIES**, plu. *-síz* [F. *courtiser*, to court, to entertain with compliments of respect (see **COURTESY**): a woman's or girl's act of reverence or respect; a woman's salutation of respect by slightly bending the knees and inclining the body forward. **CURT'SEYING** or **CURT'SYING**, imp. *-sí-íng*. **CURT'SEYED** or **CURT'SIED**, pp. *-síd*.

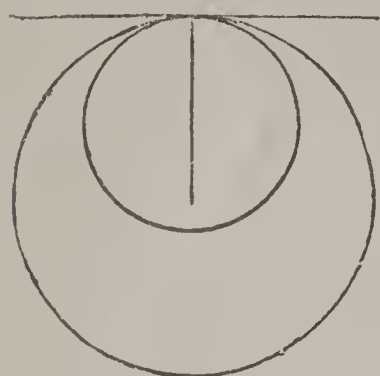
CURUCUI, n. [Braz.]: South American bird, *Trogon Curucui*.

CUR'UKU OIL, or **BRAHMADUN'DU OIL**: pale yellow, limpid oil, obtained in large quantities in India from the seeds of the *Argemone* (q.v.) *Mexicana*, or Prickly Poppy, a plant accidentally introduced, but which now flourishes luxuriantly in all parts of India. It is used for lamps, and for other purposes, but is unfit for food.

CURULE—CURVE

CURULE, a. *kū'rūl* [L. *curūlis*, pertaining to a chariot, a curule chair: It. and F. *curuel*—from L. *currus*, a chariot]: pertaining to the chair or seat used in Rome by public officers of the highest grades, such as consuls, prætors, etc.; thronelike; senatorial; magisterial.

CURVATURE, in Geometry: tendency of a plane curve



at a point to depart from a tangent to the curve at that point. In the circle, this tendency is the same throughout, for the curve is perfectly symmetrical round its centre; in other words, the C. of a circle is constant. In different circles, the C. is inversely as the radius—i.e., it diminishes as the radius increases. The reciprocal of the radius is accordingly assumed as the measure of C. of a

circle. A straight line, which has no C., may be considered part of a circle whose radius equals infinity as the reciprocal of infinity, measures the C., and is = 0. The annexed fig. shows how the circle of smaller radius bends more rapidly away from the tangent than that of larger radius.

The constancy of C. in the circle suggests an absolute measure of C. at any point in any other curve; for whatever be the C. at that point, we can always find a circle of the same curvature. The radius of the circle which has the same C. at any point in a curve as the curve itself at that point, is called the radius of C. of the curve for that point; and the circle itself is called the *osculating* circle. If we know the radius of C. of a curve at different points, we can compare its C. at those points. We have thus the means also of comparing degrees of C. in different curves.

The problem of measuring the C. of a curve at any point is the same, then, with that of finding its radius of curvature. In some simple cases, as in the conic sections, this may be done geometrically; it is usually necessary, however, to employ the calculus. If the curve be referred to rectangular co-ordinates, and x, y be a point in it, then it

can be shown that radius of C. = $\frac{\left(1 + \frac{dy^2}{dx^2}\right)^{\frac{3}{2}}}{\frac{d^2y}{dx^2}}$. If the curved

line, instead of being plane, twists in space, it is called a curve of double curvature. See **CONTACT** and **OSCULATION**.

CURVE, n. *kérv* [L. *curvus*, bent: F. *courbe*: It. *curvo*]: anything bent without angles or corners; part of a circle; an arched line; a line whose direction is constantly changing: **ADJ.** crooked; bent: **V.** to bend; to crook; to make circular. **CURVING**, imp. **CURVED**, pp. *kérvd*: **ADJ.** crooked **CURVATION**, n. *-nā'shūn*, the act of bending.

CURVE—CURVES.

CUR'VATIVE, a. -vǎ-tǐv, in *bot.*, scarcely folded; having the margins merely curved a little. **CUR'VATURE**, n. -vǎ-tǔr, crookedness, or the manner of being bent; a curve; a bending from a straight line; the amount of change of direction in a curve. **CUR'VATED**, a. -vǎ-těd, curved; bent in a regular form.—**SYN.** of 'curved': bent; awry; inflected.

CURVE: in common language, a crooked line that departs gradually from the straight direction; in mathematics, usually restricted to lines that follow some law in their change of direction. Thus, the law of the circle is, that all points of it are equally distant from a fixed point, called the centre. The law of a plane curve is generally expressed by an equation between the co-ordinates of any point in it referred to a fixed point: see **CO-ORDINATES**. When the equation of a curve contains only powers of x and y , the curve is algebraic; when the equation contains other functions, logarithms, for instance, of x and y , the curve is called transcendental^a. The cycloid, e.g., is a transcendental curve.

There are also curves, like the spiral, that do not continue in one plane; these are called curves of double curvature. To express the law of such a curve requires three co-ordinates and two equations.—Curves are said to be of the first, second, third, etc., order, according as their equations involve the first, second, third powers of x or y . The circle, ellipse, parabola, and hyperbola are of the second order of curves. There is only one line of the first order, namely, the straight line, which is also reckoned among the curves.—The higher geometry investigates the amount of curvature of curves, their length, the surface they enclose, etc.

The number of curves that might be drawn is of course infinite. A large number have received names, and are objects of great interest to the mathematician—in some cases, for their beauty in others, for their remarkable properties. Among the most interesting are the following: 1, circle; 2, ellipse; 3, hyperbola; 4, parabola; 5, cissoid of Diocles; 6, conchoid of Nicomedes; 7, lemniscata; 8, cycloid; 9, harmonic curve; 10, trochoid; 11, the witch; 12, cardioid; 13, curves of circular functions—e.g., curve of sines; 14, the logarithmic curve; 15, the spiral of Archimedes; 16, the catenary; 17, the tractory; 18, the tractrix; 19, the ovals of Cassini; 20, the reciprocal spiral.

CURVEMBRYÆ, n. plu. kěrv-ěm-brǐ-ě-ě [*L. curvus*, curved; mod. *L. embryo*—from Gr. *embruon*]: in *bot.*, the second of two sub-orders of *Solanaceæ*, in the classification of that order proposed by Mr. Miers. The first is the *Rectembryæ*, in which the embryo is straight; in the second, *Curvembryæ*, as the name imports, it is curved.

CURVES, ANTICLINAL AND SYNCLINAL: terms applied to the elevations or depressions in undulating strata. The ridge-wave is called the anticlinal curve, and the top of the ridge is known as the anticlinal axis; while the trough is the synclinal curve, and the bottom of the trough the

CURVET—CURZOLA.

synclinal axis. In the annexed section of the Jura Moun-



tains, three anticlinal and two synclinal axes are seen.

CURVET, n. *kér'vèt* [It. *corvetta*, a curvet, a leap: F. *courbette*, curvet—from F. *courbe*, a curve—from L. *curvus*, bent]: the prancings of a managed horse, in which he bends his body together and springs out: V. to leap in curvets; to frisk; to leap and bound. **CUR'VETING**, imp. **CUR'VETED**, pp.

CURVICAUDATE, a. *kér'vĩ-kaw'dāt* [L. *curvus*, bent; *cauda*, a tail]: having a bent tail. **CUR'VIFOLIATE**, a. *-fō'li-āt* [L. *folium*, a leaf]: having bent leaves. **CUR'VIFORM**, a. *vĩ-fawrm* [L. *forma*, a shape]: being of a curved form.

CURVILINEAR, a. *kér'vĩ-lĩn'ĩ-er* [L. *curvus*, bent; *linēa*, a line]: having a curve line; consisting of curve lines. **CUR'VILINEARITY** n. *-ĩn'ĩ-tĩ*, the state of being described or bounded by curved lines. **CURVILINEAD**, n. *-ĩ-ād*, drafting-instrument used in describing irregular curves. The various shapes of its marginal outline enable it to be fitted into position, so as to project or transcribe the curve required. Mr. Desalier, of Paris, invented a machine for generating the curves and marking out the patterns. It is capable of marking 1,200 varieties of curves. **CURVOGRAPH**, n. *kér'vo grăf* [Gr. *grapho*, I write, I describe]: instrument for drawing a curve without reference to the centre. It is usually an elastic strip, adjustable to a given curve, and serves to transfer the latter to another plat or another place on the plat: see **ARCOGRAPH** and **CYCLOGRAPH**. **CUR'VIROS'TRAL**, a. *-rōs'trāl* [L. *rostrum*, a beak]: having a crooked beak.

CURVISERIAL, a. *kér'vĩ-sē'rĩ-āl* [L. *curvus*, crooked; *seriēs*, a row]: in the arrangement of leaves on an axis or stem, applied to those leaves which are believed to be disposed on an infinite curve, as distinguished from *rectiserial* ones.

CURZOLA, *kórd-zō'lá* (anc. *Corcyra Nigra*, so called from the sombre color of its pine forests): island of the

Adriatic, part of the Austrian crown-land of Dalmatia; lat. 42° 57' n., long. 17° e.; length about 25 m., average breadth 4 miles. It is well covered with wood, which on the s. coast grows down to the water-edge. The woods furnish ship-timber, considerable wine is produced, and the fisheries of the coast are productive. The town of C. (pop. abt. 2,000) is at the n.e. extremity of the island. Pop. of island abt. 22,000.

CURZON, LORD, GEORGE NATHANIEL: Eng. statesman; b. 1859, Jan. 11, in Kedleston, England; educated at Balliol Coll., Oxford, and at Eton; assist. priv. sec. to Marquis of Salisbury 1885; under sec. of State for India 1891-2, and for Foreign Affairs 1895-8; became viceroy and gov.-gen. of India in the latter year. In 1895 married Mary Victoria Leiter, dau. of Levi Z. Leiter, Chicago, Ill.

CUSCO-BARK, n. *kūs'ko*- [from *Cuzco*, in lower Peru, whence the bark]: a kind of Cinchona bark, exported from Arequipa, used in the cold stage of intermittent fevers and in low typhoid states of the system.

CUSCUS, *kūs'kūs*, or COUS'SOUS [a Molucca island word]: marsupial mammal, *Phalangista cavifrons*: s. PHALANGER.

CUS'CUS: see LEMON GRASS.

CUSCUTA'CEÆ: see DODDER.

CUSH, *kūsh*: name given in the Old Testament to the oldest son of Ham, to the peoples descended from him, and to the countries inhabited by them. Of his sons, Seba dwelt in Africa, bordering on Egypt; Havilah, in Arabia and adjoining parts of Africa; Sabta, in Arabia Felix; Raahmah, along the Persian Gulf; Nimrod (who is noted in Scripture as the first man who became conspicuous in the chase and in war) built Babylon and Nineveh, and founded the empire of Assyria. It is evident, therefore, that when the Cushites and the land of Cush are spoken of, a wide diffusion of people and a consequent large extent of territory are implied. One of the rivers of Eden, it is said, 'compassed the land of Cush.' This does not prove that paradise was in Africa, nor shut us up to a narrow district in considering where it possibly may have been.

Modern research into the ancient languages of the East has furnished unexpected confirmatory proof that an ethnical relation existed between the African Cushites (or Ethiopians) and the original inhabitants of Babylonia.

CUSHAT, n. *kūsh'āt* [AS. *cusceote*]: the ring-dove or wood-pigeon: see PIGEON.

CUSHEW, n. *kūsh'ū* [a native American word(?): large bird, *Ourax pauxi*, of the family *Cracidæ* or Curassows, and itself sometimes called the Galeated Curassow. The bill is bright red, surmounted by a protuberance of livid slate color. The feathers of the head and neck are of a rich black color and velvety texture; the greater part of the body brilliant black, with green reflections; the abdomen and under tail coverts white; legs red, claws yellow. This bird, which is about the size of a hen turkey, is a native of Mexico, Brazil, and Guiana. It is gregarious and builds its nest on the ground. See picture under CURASSO.

CUSHING—CUSHION.

CUSHING, *kúsh'ing*, CALEB, LL.D.: 1800, Jan. 17—1879, Jan. 2; b. Salisbury, Mass.: statesman. He graduated at Harvard Univ. 1817, studied law and began to practice in Newburyport, Mass., was elected member of the legislature 1825, and of the senate 1826, spent two years in European travel, was again elected to the legislature 1833 and was chosen member of congress as a whig 1834. He served four consecutive terms, joined the democratic party 1841, was nominated for sec. of the treasury and rejected by the senate 1843, was then appointed U. S. commissioner to China, and negotiated the first treaty between that country and the United States. At the outbreak of the Mexican war he raised a Mass. regt. at his own expense, accompanied it as col. and was promoted brig.gen. He served a third term in the legislature 1850–52, was appointed a justice of the Mass. supreme court 1852, was U. S. atty. gen. 1853–57, and was again in the legislature 1857–60. In 1860, Apr., he presided over the democratic national convention in Charleston, but withdrew with other delegates and held another convention in Baltimore; was appointed one of three commissioners to codify the laws of congress 1866, was one of the American counsel before the Geneva conference 1872, was nominated for chief-justice of the United States, but the nomination was withdrawn 1873, and was U. S. minister to Spain 1873, Dec.—1877, Jan. 6.

CUSHING, LUTHER STEARNS: 1803, June 22—1856, June 22; b. Lunenburg, Mass.: lawyer. He graduated at Harvard law school 1826, and became associate editor of *The American Jurist and Law Magazine*, clerk of the Mass. house of representatives, lecturer on Roman law in Harvard law school, judge of the common pleas court, Boston, and reporter of decisions of the state supreme court. He was author of *Manual of Parliamentary Practice* (1844), *Introduction to the Study of Roman Civil Law* (1854), *Lex Parliamentaria Americana* (1856), and a number of technical works, including *Treatise on Trustee Process* (1837) and *Treatise on Remedial Law* (1837), and translated Sarigny's *Recht des Besitzes* (1838), Pothier's *De La Vente* (1839), Mattermair's *Effect of Drunkenness on Criminal Responsibility* (1841), and Domat's *Les lois civiles dans leur ordre naturel* (1850).

CUSHING, THOMAS, LL.D.: 1725–1788; b. Boston: statesman. He was elected to the Mass. assembly 1766, May, became speaker on its organization, and held the office till 1774; opposed the formation of committees of correspondence 1772; was elected to the first continental congress 1774, and the second 1775; was a member of the council of the new govt. of Mass. 1775; opposed the declaration of independence and was defeated for the third congress 1776; was elected lieut. gov. of Mass. 1783; and member of the convention that ratified the federal constitution 1788. He was among those whom Gen. Gates was instructed to send to England to be tried for treason, and was successful in obtaining secret information of British movements.

CUSHION, n. *kúsh'ün* [F. *coussin*—from mid. L. *culcitinum*, a little mattress—from L. *culcita*, a cushion: It.



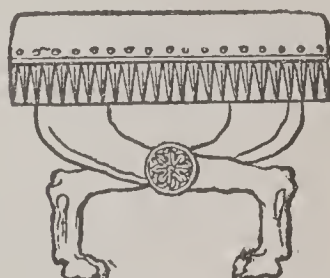
Red Currant.



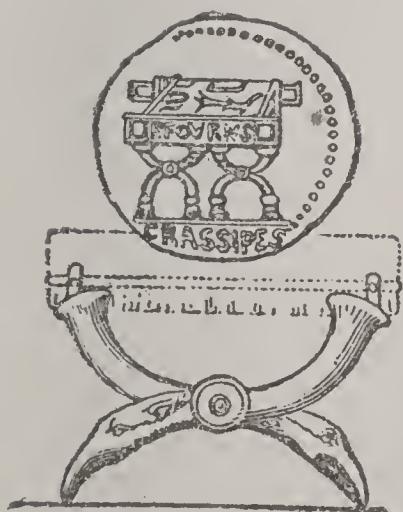
Curriele.



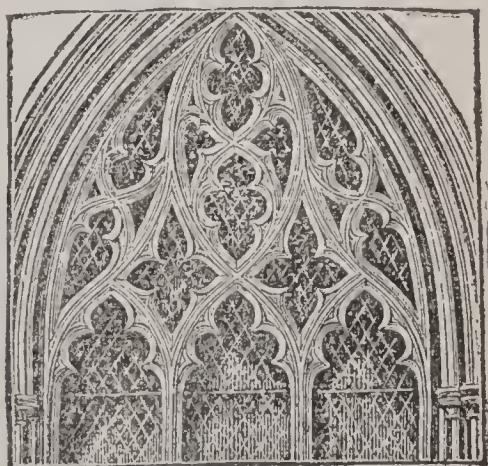
Cursorius.—Brazen-winged Courser
(*C. chalcopertus*).



Curule Chair.—From drawing found
in Pompeii.



Curule Chair.



Window with Cusped Moldings.

CUSHMAN.

coscino; Ger. *küssen*, a cushion]: a soft pad or pillow to sit on; any bag filled with soft materials; any stuffed or padded surface; the padded side or edge of a billiard-table: V. to furnish with a cushion or cushions. CUSH'IONING, imp. CUSH'IONED, pp. -*ünd*. CUSH'IONET, n. -*ün-ét*, a little cushion.

CUSHMAN, *kúsh'man*, CHARLOTTE SAUNDERS: actress: 1816, July 23—1876. Feb, 18; b. Boston: descendant of the pilgrim, Robert C. (q.v.). She received a good musical education, and before her 12th year was aiding in the support of the family by singing in a church choir. In 1834 she made her first appearance on the stage, singing in Mrs. Joseph Wood's concerts in Boston. Her success secured for her a thorough training for the operatic stage, and she gave performances in Tremont Theatre, Boston, as Lucy Bertram in *Guy Mannering*, and the Countess Almaviva in the *Marriage of Figaro*. While fulfilling an engagement in New Orleans her voice suddenly failed, and she was induced reluctantly to abandon singing and study to become a tragic actress. She made her first appearance in her new profession 1835 as Lady Macbeth. She played through seasons in New York and Albany in female tragic parts, was leading actress in the Park Theatre, New York, 1837-40, manager of the Walnut Street Theatre, Philadelphia 1842-44, made a tour of the northern states with Mr. Macready 1844, and in the latter part of the same year appeared with extraordinary success in London and Dublin. Her foreign stay was prolonged beyond anticipation, and she did not return to the United States till 1849, Aug. She made a professional tour of the country, gave a farewell performance in New York 1852, May 15, and after visiting friends in England and on the continent played in London and the provinces 1853, Dec.—1857; then made a brief tour in the United States, and took up her residence in Rome, Italy, 1859, Jan. She played several times in the United States in the early part of the civil war for the benefit of the U. S. Sanitary Commission, gave several series of dramatic readings, and closed her career as an actress at the Globe Theatre, Boston, as Lady Macbeth, 1875, May 15. Among her leading characters were Elvira, Helen McGregor, Queen Katharine, Ophelia, Rosalind, Julia in *The Hunchback*, Katharine in *Taming of the Shrew*, Meg Merrilies, Nancy Sykes, Lady Gay Spanker; Cardinal Wolsey and Romeo.

CUSHMAN, ROBERT: 1580-1625; b. Kent, Eng.: one of the Plymouth pilgrims. He was associated with John Carver in facilitating the emigration of persecuted nonconformists from England to Holland, was sent on three missions to London to obtain grants of land in America for the settlement of the Leyden colonists, secured a patent 1619, purchased the *Mayflower*, and sailed in her, as asst. gov. of the pilgrims, from Southampton 1620, Aug. 5. A second vessel, the *Speedwell*, proved unseaworthy, was left with its passengers at Plymouth, and Mr. C. remained with them till a third vessel, the *Fortune*, took them all and reached Plymouth, Mass., 1621, Nov. 9. In the follow-

ing month he preached in the 'common house' of the colony the first sermon in America that was printed, on *The Sin and Danger of Self-love* (London 1622), and a few days afterward sailed for England as agent for the colonists. He was captured, plundered, taken to France and detained two weeks, published a vindication of the colonial movement and an appeal for Christian effort among the American Indians on reaching London, obtained a charter for a large tract of land on Cape Ann 1623, and died while closing his London affairs preparatory to returning to the colony.

CUSK: see TORSK.

CUSP, n. *kŭsp* [L. *cuspis* or *cuspidem*, a point, a lance: It. *cuspidè*]: a point in a curve at which its two branches have a common tangent. If we conceive a curve to be generated by a moving point, then a C. is where the point suddenly stops and *returns* for a time in the same general direction as that in which it was moving when it reached the C. point. Cusps are of two kinds: 1, when the two branches, AB, AC, have their convexities turned in the same direction with respect to the common tangent at the C. point, as in fig. 1; 2, when they have their convexities

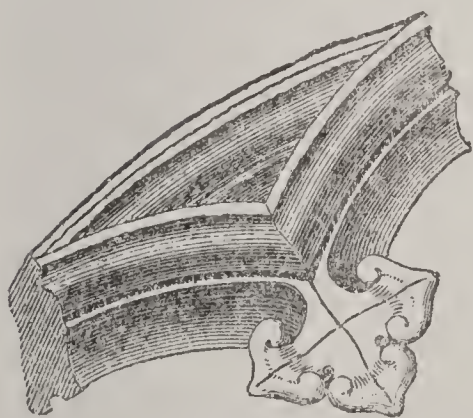


Fig. 1.



Fig. 2.

turned in opposite directions to the common tangent at the C. point, as in fig. 2. CUSP, in *astron.*, point or horn of the moon. CUSP, in



Cusp.

arch., projecting point or ornament formed by the meeting of two small arches or foils, in foil-arches (q.v.) or tracery; cusps often terminate in rich bosses of flowers or leaves. CUSPIDATE, a. *kŭs'pĭ-dāt*, in *bot.*, having a sharp end like a spear; ending in a bristly point; in *anat.*, applied to the canine or eye teeth.

CUSPARIA-BARK, n. *kŭs-pär'ĭ-a*: see ANGOSTURA BARK.

CUSPIDOR, n. *kŭs'pĭ-dŏr* [Sp. *escupidor*, one who spits—from *escuper*, to spit]: a spittoon.

CUSSO, *kŭs'sō*, or KOSSO, *kŏs'sō*, or CABOTZ, *ká'botz* (*Brayera anthelmintica*, or *Hogenia Abyssinica*): small Abyssinian tree of the nat. ord. *Rosaceæ*, sub-order *Spiraceæ*, the dried flowers of which have been long used in Abyssinia as an anthelmintic, and have been found so efficacious in the

CUSTARD—CUSTARD APPLE.

removal of tape-worm, that they are now a much valued medicine in Europe. The flowers are simply dried, in order to be ready for the market; they have an aromatic, but



Cusso:

A, a branch, with leaves and flowers; B, a flower seen laterally; C, a female flower; a, b, c, d, e, the five outer segments of the calyx.

not very agreeable smell, and are administered in the form of an infusion.

CUSTARD, n. *kūs'térđ* [probably a corruption of the OE. *crustade*, a dish of the 14th c., consisting of a kind of stew served up in a raised *crust*—from OF. *croustade*, a pastry, a tart, a crust]: a mixture of milk or cream and eggs sweetened and flavored, and afterward baked or boiled. Custards are of various kinds, such as plain, baked, lemon, orange, almond, coffee custards, etc. For a plain C., the following is a recipe given by M. Soyer: Mix a pint of boiling milk with two ounces of sugar and the thin yellow peel of half a lemon; then take four eggs, beat well in a basin, and add gradually the milk, etc. (not too hot); pass the mixture through a colander, and, having filled the custard cups with it, place them over the fire in a stew-pan, containing about one inch of hot water, and leave them here until sufficiently set (about 12 minutes is the time required). With this as a basis, a variety of custards are produced by addition of flavoring ingredients, as vanilla, almonds, orange-peel, etc.

CUS'TARD AP'PLE: name commonly given in the W. Indies and other tropical countries to the fruits of certain species of *Anona*, genus of trees of the nat. ord. *Anonaceæ* (q.v.). Some of the fruits of this genus are among the most delicious produced in tropical countries, as the Cherimoyer (q.v.), and even the common C. A. (*A. reticulata*), regarded as a native of America, but now very common throughout the E. Indies, the variety cultivated in the Eastern Archipelago being much superior even to the W. Indian. The C. A. is a large, dark-brown, roundish fruit, sometimes from its size and appearance called Bullock's Heart in the

CUSTER.

W. Indies; the tree is of considerable size. Some other American species of *Anona* are sometimes called custard apples, and two or three which are natives of W. Africa. To this genus belong also the Sweet-sop, the Sour-sop, the



Custard Apple (*Anona triloba*).

Pinana or Pinha, all of them tropical American fruits, and the ALLIGATOR APPLE of the W. Indies (*A. palustris*), a fruit of pleasant taste, but regarded as dangerously narcotic.

CUSTER, *kŭst'ēr*, GEORGE ARMSTRONG, U.S.A.: 1839, Dec. 5—1876, June 25; b. New Rumley, O. He graduated at the U. S. Milit. Acad. 1861, June; performed staff service with Gens. Kearney, Smith, McClellan, and Pleasanton; appointed brig.gen. of vols. for unusual gallantry 1863, June 29; promoted maj. U.S.A. for checking the Confederate attempt to turn the left flank of the Union army at Gettysburg, 1863, July 3; brevetted licut.col. for conspicuous gallantry on Sheridan's raid toward Richmond 1864, May 11; brevetted col. for services at Winchester 1864, Sep. 19; appointed to command of the 3d div. of cav. 1864, Sep. 30; brevetted maj.gen. vols. Oct. 19; in command of cav. div. in pursuit of Confederate Gen. Lee 1865; promoted maj.gen. vols. on Lee's surrender; and chief of cav. in dept. of Tex. 1865-6. He served on the plains till 1871, was engaged against hostile Indians till 1873, opened the Black Hills (Dak.) region to miners 1874, and was killed with his entire command by confederated Sioux on the Little Big Horn river. Gen. C. was a conspicuously chivalrous and brilliant officer.

CUSTIS—CUSTOMARY FREEHOLD.

CUSTIS, *kŭs'tĭs*, GEORGE WASHINGTON PARKE: author: 1781, Apr. 30—1857, Oct. 10; b. Mt. Airy, Md.; son of Col. John Parke C., who was Mrs. Martha Washington's son by her first husband. He was the adopted son of Gen. Washington, and was educated at St. John's and Princeton colleges; remained in the Washington family till his grandmother's death, built Arlington house on the heights near Washington; was the father of Mrs. Robert E. Lee; and the author of several plays and orations and *Recollections of Washington* (New York, 1860).

CUSTOCK: see CASTOCK.

CUSTODY, n. *kŭs'tŏ-dĭ* [L. *custŏdiā*, a keeping or preserving—from *custos*, a guard: It. *custodia*: F. *custode*]: a guarding; a keeping; care or watch over for security or preservation; imprisonment (q.v.). **CUSTODIAN**, n. *-tŏ'dĭ-ăn*, one who has the care or custody of some public building; also **CUSTODIER**, n. *-ĕr*, one who. **CUSTODIAL**, a. *-ăl*, relating to guardianship.

CUSTOM, n. *kŭs'tŭm* [OF. *coustume* and *costume*—from mid. L. *costŭma*, custom: It. *costume*, custom, usage—from L. *consŭĕtus*, usual, ordinary]: frequent repetition of the same act; established manner; the practice of frequenting a shop for the purchase of goods; usage; toll or tax: V. in *OE.*, to supply with customers; for 'accustom'. **CUSTOMED**, a. *kŭs'tŭmd*, in *OE.*, common; usual; for 'accustomed'. **CUSTOMS**, n. plu. duties or taxes on goods imported or exported. **CUSTOM-HOUSE**, office of the govt. officials at a seaport, where customs-duties (q.v.) are paid, vessels entered and cleared, etc. The custom-houses at the chief ports of the United States have a large staff of officials of various departments and grades—the collector of the port being the highest. **CUSTOMABLE**, a. *-ă-bl*, habitual; frequent. **CUSTOMABLY**, ad. *-ă-blĭ*. **CUSTOMARY**, a. *-ĕr-ĭ*, usual; habitual; in common practice. **CUSTOMARY**, n., or **CUSTOMAL**, n. in *archæol.*, a book descriptive of the customs of a manor or city. **CUSTOMER**, n. *-ĕr*, one who frequents a shop for the purchase of goods; a buyer. **CUSTOMARILY**, ad. *-ĕr-ĭ-lĭ*. **CUSTOMARINESS**, n. frequency; habitual use.—**SYN.** of 'custom, n.': fashion; manner; method; practice; habit; prescription.

CUSTOM, in English Law: established usage, either general or particular. For the principal doctrines relating to general customs, see **COMMON LAW**. Of particular customs, it may be remarked that, in order to establish them as law, they must be proved by verdict of a jury, except the C. of the city of London, which is proved by certificate by the lord mayor, aldermen, and recorder. A particular C. must, like a general C., be established as in force for a time whereof the memory of man runneth not to the contrary: see **COMMON LAW**. A C. must have been uninterrupted as regards its right, though the exercise of it may have been disused; it must have held without objection, and be unopposed to other customs; it must be not unreasonable nor uncertain in operation.

CUSTOMARY FREEHOLD, in English Law: species

CUSTOMS DUTIES.

of estate which, in all practical respects, is identical with Copyhold (q.v.), but in which the tenure is expressed to be according to the custom of the manor, without adding the words 'at the will of the lord.'

CUSTOMS DUTIES: portion of the public revenue derived from a tax on imports. The origin of the term is connected with the long conflict in Britain between the crown and parliament as to the right of taxation. To meet the claims made by the house of commons of the exclusive right to vote all supplies, it used to be maintained that there were certain duties on exportation and on importation to which the crown had acquired a right by *custom*, and after the power of parliament over this branch of taxation had been fully established, it retained its old name. This tax, after the excise came in force, was always applicable distinctively to goods changing place. There were customs not only upon things leaving and things coming to the British dominions, but also upon commodities transferred from one part to another. In Scotland, the duty on commodities imported into any town from a foreign country was called the great custom; and the duty charged by a burghal corporation on commodities coming from the country districts within its walls was called the small or petty customs. At present, the term C. D. applies solely to the tax levied on commodities imported from abroad.

The tax on imports was of old a simple percentage, familiarly known to the readers of English history as 'tonnage and poundage,' from the method in which it was adjusted to heavy and light goods. Subsequently, however, the notion prevailed that the C. D. might not only be a source of revenue, but an instrument for furthering the various theories about protecting this trade and discouraging that, which prevailed from time to time. When it was held as an established principle, with regard to any trade, that the customs should be adjusted in such a manner as either to aid or to impede it, the regulations regarding that trade alone would have complexity enough for a whole code of customs laws, the object of which was mere revenue. The more complex the arrangements, the more open were they to the machinations of the smuggler or defrauder, and consequently regulation had to be added to regulation, till the whole became a chaos. In some instances, the duties were such as to act as a prohibition to importation; in others, merely as a heavy increase on the price. In either case, there would be relaxations in favor of the produce of British colonies, and perhaps of some favored country with which Britain had a treaty of reciprocity. Then, to encourage British trade and manufactures, it was considered politic to allow goods be imported for exportation abroad, or to be imported for the purpose of being worked up into a manufacture, and there would be a difference between the extent of encouragement granted to that manufacture, if it were for home consumption or for exportation. The method in which such relaxation was accomplished was at first by charging the

CUSTOMS DUTIES.

duty on the importation, and afterward repaying it by what was called a 'drawbaek;' and this was subsequently accomplished in an easier method for the importer, by allowing him to 'bond' the goods in the government warehouses until the duty was paid, or the condition, which dispensed with it fulfilled: see WAREHOUSING SYSTEM.

The free-trade legislation of 1846, in Britain, cleared away a great mass of customs regulations, and almost every year has contributed to the abbreviation of the list of duties or Tariff (q.v.). Nearly the whole customs revenue is now derived from tea, coffee, dried fruits, spirits, wine, and tobacco. Thus simplified and reduced, the C. D. supply an enormous revenue. The British revenue for the year ending 1880, Mar. 31, was £81,265,055, and to this amount the customs contributed £19,326,000.

The defects which, according to the doctrines now prevalent in Great Britain, are to be avoided in a code of customs, are—1. The prohibition or discouragement of the importation of useful commodities; 2. Encouragement to the smuggler; and 3. Loss of revenue by raising the duty to the height which discourages importation. Under the first head, see ANTI-CORN-LAW LEAGUE: CORN LAWS: FREE-TRADE. The second is connected with the view that on stimulants the duty cannot be too high, even though it should greatly impede their importation—the duty on tobacco is, in some instances, as high as 900 per cent. on the value of the article. But then, if the smuggling trade be encouraged, the stimulant is not only obtained without any contribution to the revenue, but the people become demoralized, and trained to crime. Under the third head, a memorable example is furnished by the sugar-duties of France, which were so high that the native agriculturists could make sugar from beet-root a little cheaper than the duty-paid foreign sugar. Hence the article was dear, for had it not been for the height of the duty, it would not have been worth while to make it at home, and at the same time there arose little or no revenue from it.

The collection and general management of the British C. D. is under one great central department of the government in London. The office of receiver-general was, in 1871, united with that of the comptroller-general, and there is a fourfold division into the paymaster's, examiner's, accountant's, and auditor's branches.

In the United States the collection of C. D. is under the official control of the sec. of the treasury and the immediate management of a commissioner of customs. This form of taxation, known as indirect because not laid on individual citizens, is conducted wholly in accordance with the provisions of the federal constitution, and by the national govt. exclusively, the constitution prohibiting any state to lay any imposts or duties on imports or exports except for executing its inspection laws. The congress decides from time to time by means of a tariff bill the various articles on which duties shall be laid and the amount, and the collection is made at ports of entry by govt. officers as the im-

CUSTOS ROTULORUM.

ported goods are received and before they are delivered to the owner or his representative. Previous to the civil war the expenses of the national govt. were met almost entirely by the proceeds of C. D., from 1849 to 1862, inclusive, there having been no internal revenue receipts; and only in the year 1850 did the miscellaneous receipts, aside from public lands, amount to more than \$1,500,000. But the extraordinary outlays that followed necessitated the imposition of excises on various domestic manufactures, and in 1866, when internal revenue taxes reached the highest point, the receipts were \$309,226,813, and the miscellaneous receipts \$29,036,314 while in the same year the customs receipts were only \$179,046,651. While the national revenue has proceeded largely from C. D. these became secondary to int. rev. 1898-1902. The following table shows this proportion, postal receipts being omitted:

Years.	Total Ordinary Receipts.	Customs.	Other Receipts.
1870.....	\$395,959,833	\$194,538,374	\$201,421,459
1871.....	374,431,104	206,270,408	168,160,696
1872.....	364,394,229	216,370,286	148,023,943
1873.....	322,177,673	188,089,522	134,088,151
1874.....	299,941,090	163,103,833	136,837,257
1875.....	284,020,771	157,167,722	126,853,049
1876.....	290,066,584	148,071,984	141,994,600
1877.....	281,000,642	130,956,493	150,044,149
1878.....	257,446,776	130,170,680	127,276,096
1879.....	272,322,136	137,250,047	135,072,089
1880.....	333,526,500	186,522,064	147,004,436
1881.....	360,782,293	198,159,676	162,622,617
1882.....	403,525,250	220,410,730	183,114,520
1883.....	398,287,582	214,706,497	183,581,085
1884.....	348,519,870	195,067,490	153,452,380
1885.....	323,690,706	181,471,939	142,218,767
1886.....	336,439,727	192,905,023	143,534,704
1887.....	371,403,278	217,286,893	154,216,385
1888.....	379,266,075	219,091,174	180,174,901
1889.....	387,050,059	223,832,742	163,217,317
1890.....	403,080,983	229,668,585	173,412,398
1891.....	392,612,447	219,522,205	173,090,242
1892.....	354,937,785	177,452,964	177,484,819
1893.....	385,819,628	203,355,016	182,464,611
1894.....	297,722,266	131,818,530	165,903,487
1895.....	313,390,075	152,158,617	161,231,458
1902.....	562,478,233	254,444,708	308,033,524

The total ordinary receipts of the govt. 1790-1895 amounted to \$14,224,044,953, of which C. D. yielded \$7,415,871,507, leaving \$6,808,174,446 as the share of other sources of revenue. (In the above all fractions of a dollar are omitted.)

In 1891 there were 31 customs districts in the United States with 116 stations and ports of entry. The highest paid collectors were those of New York, \$12,000; Boston and Philadelphia, \$8,000; Baltimore, Chicago, New Orleans, and San Francisco, \$7,000; Portland, Me., \$6,000; and Key West, \$5,000.

CUSTOS ROTULORUM, *kūs'tōs rōt'ū-lō-rūm* [L. *custos*, a keeper; mid. L. *rotūlus*, a roll, a register—from L. *rōtūla*, a little wheel]: in *Great Britain*, the keeper of the rolls or registers of the sessions; the principal justice of the peace

and chief civil officer within the county appointed by the crown to keep the county records.

CÜSTRIN': see KÜSTRIN.

CUT, v. *küt* [W. *cütt* and *catt*, a little piece: comp. Gael. *cutach*, short, diminutive; *cutaich*, to shorten, to lop: Ir. *cut*, a short tail]: to separate by a cutting instrument into short pieces; to divide; to sever; to hew, as timber; to penetrate or pierce; to affect deeply; to intersect or cross; to intercept: N. a piece separated by cutting; a stroke or blow with a sharp instrument; a cleft; a notch; a gash; a channel or ditch made by digging or cutting; a carving or engraving, likewise the print from it; form; shape; fashion. CUT, pp. and pt. divided; pierced; deeply affected: ADJ. divided; carved; intersected. CUTTING, imp.: ADJ. sarcastic; severe: N. an incision; a piece cut off; a portion of a plant bearing a bud, for propagation; a long deep excavation, as in making a road, a railway, or a canal. CUTTER, n. one who or that which cuts; one of the boats of a large ship; a light swift vessel with one mast; a small, light sleigh; an incisor tooth. CUTTERS, n. plu. in a *machine*, knives that cut; bricks used chiefly for the arches of windows, doors, etc. CUTTINGLY, ad. -ly. CUT-GRASS, *Leersia oryzoides*, the leaves being so rough as to cut the hand. CUT-OFF, a shorter passage or route; in *machinery*, term applied to that arrangement for using steam or elastic fluid, in which it is admitted to the cylinder during a portion only of the stroke of the piston; the steam, after the induction ceases, working expansively in the cylinder during the remainder of the stroke. CUT-VELVET, piled goods in which the loops are cut. To CUT A FIGURE, to show off conspicuously. To CUT A JOKE, to be witty and sociable. To CUT DOWN, to reduce; to retrench; to fell, as timber. To CUT OFF, to separate; to destroy; to intercept. To CUT UP, to divide into pieces. To BE CUT UP, applied to an army in the field that has lost many men in killed and wounded; *familiarly*, to be annoyed or disturbed. To CUT OUT, to remove a part; to shape. CUT OUT, suited for the occupation by his natural abilities. To CUT OUT A SHIP, to enter a harbor and seize and carry off a ship by a sudden attack. To CUT SHORT, to abridge. To CUT A KNOT, to effect anything by short and strong measures. To CUT THE CARDS, to divide a pack into two portions. CUT AND DRY or DRIED, prepared for use; already prepared. CUT OF HIS JIB, the contour or expression of his face as indicating his character; a sailor's term, the jib indicating the character of the ship. To CUT IN, to divide; to join in anything suddenly. To DRAW CUTS [W. *cutics*, lot]: to draw lots by means of straws or pieces of paper, etc., cut in pieces of different lengths and held between the forefinger and thumb. CUT-PURSE, a thief; a robber. CUT THROAT, a murderer; an assassin: ADJ. murderous; barbarous. CUT-WATER, the fore part of a ship's prow that cuts the water.

CUT, v. *küt* [Gael. *cuite*, to quit; *cuidhte*, to go away]: in *familiar slang*, to run away; to avoid meeting or coming into contact with. CUT, v. impera. run away; be off,

CUTANEOUS-CUTCH.

TO CUT ONE, to refuse or avoid recognizing him when meeting or passing; to renounce acquaintanceship. To CUT CAPERS, to conduct one's self in a ridiculous or improper manner. CUT YOUR STICK [perhaps Gael. *teich*, to flee; to be off]: take up your staff or belongings and be off; also CUT AND RUN, in same sense. CUT A DASH, to make a great show. CUT AWAY, be off at once; go away fast. *Note.*—We have in OE. *cut*, in Scot. *cutty*, an animal with a short or *cut* tail, an abusive word applied to a woman: Dut. *kutte*; Fin. *kutta*, the distinctive features of a woman, a feeble womanly man: such familiar phrases as '*cut* an acquaintance,' '*cut* of his jib,' '*cut* capers,' may have originated from the treatment accorded by a warlike race to non-warlike or effeminate men; without doubt the present entry is much confused in its meanings by a supposed identity with CUT 1: see COTQUEAN, note.

CUTANEOUS, a. *kū-tā'nē-ūs* [L. *cutānēus*—from *cūtis*, skin: allied to Skr. *sku*, to cover: It. *cutaneo*; F. *cutané*, cutaneous]: pertaining to the skin; affecting the skin.

CUTCH: commercial name for CATECHU, which see.

CUTCH, *kūch*, or KACHH: a protected state under the presidency of Bombay, stretching along the gulf of its own name and the Indian Ocean between Guzerat and Sinde; n. lat. from 22° 45' to 24° 40', and in e. long. from 68° 26' to 71° 45', containing, in something of a triangular form with the maritime line as a base, 15,100 sq. m. It is divided naturally into C. Proper and the Runn of Cutch.—1. C. Proper, 6,500 sq. m., and numbering nearly all the inhabitants, is the belt on the sea shore, touching Sinde, of which it may be regarded as a physical continuation, on the n.w., and being separated by a detached portion of the Runn from Guzerat on the s.e. While the s. edge of this belt is merely a sandy desert, the n. section, traversed lengthwise by two parallel ranges of hills, presents, amid much sterility, many fertile tracts, which yield cotton, rice, etc., and feed a large stock of horses, kine, buffaloes, and camels. The grand defect of the country is the scarcity of water. Hence the crops occasionally fail from the scantiness of irrigation; and in 1861, March, this region was said to be suffering more severely than almost any other in India from a nearly general famine. Timber is scarce, for the growth in the mountains is chiefly brushwood. Here and there, however, decayed trunks of great size, particularly on the s. ridge, indicate the former existence of noble forests. The mineral productions are coal, iron, and alum. The traces of volcanic action are numerous. Earthquakes have recently occurred; one of which, 1819, July, besides shaking every fortification to its foundations, and destroying several hundreds of people, threw up an enormous mound of earth and sand many miles in extent, and simultaneously submerged an adjacent district of corresponding size. The ruler is styled the Rao; and the feudatory chieftains under him number about 200. Pop. of C. Proper (1881) 512,084; abt. 78 to a sq. mile; (1891) 558,415; (1901) 487,374.

CUTCH—CUTH.

2. Runn of C.—subdivided into two parts, the smaller, of 1,600 sq. m., on the e., and the larger, of 7,000 sq. m., on the n.—is merely a twofold desert, being, in a great measure, hard ground during the dry season, and then, in turn, a sort of shallow lake or salt morass formed by the heavy rains and pent-up tides of the s.w. monsoon. It is supposed to have been originally a permanent inlet of the ocean, and to have had its level raised by some such convulsion of nature as that which marked the year 1819. The periodical disappearance of the waters leaves behind it one continuous crust of salt. This dreary waste, however, is not without its elevated spots, the islets, doubtless, of a remoter era. Herds of wild asses and clouds of flies are its only inhabitants, and to attempt to cross it by day, except in the rainy season, is almost certain death.

CUTCH (or KACHH), GULF OF: arm of the Arabian Sea, in many parts so shallow as to resemble rather a marsh. It is 110 m. long, between Cutch and Guzerat.

CUTCHA, a. *kŭch'ă* [Hind. *kacha*, raw]: makeshift; temporary; doubtful; unsatisfactory; being thus opposed to *pucka* [Hind. *pakka*, ripe]. *Note*.—A solidly-built house of stone or brick is a *pucka* house; but one made of mud and brick, or lath and plaster, is a *cutcha* affair. The permanent holder of an appointment is said to possess a *pucka* post; while his *locum tenens* would be holding a *cutcha* one: a metalled road is *pucka*; an unmade cross-country track is a *cutcha* road.

CUTCHERY, n., also spelled KACHCHARI, properly KACHAHRI, n. *kŭt-chēr'ī* [Hind.]: in the *E. Indies*, the court of a magistrate of any kind.

CUTCH GUNDAVA, *kŭch gŭn-dă'vâ*: province of n.e. Beloochistan, bet. lat. 27° 40' and 29° 50' n., and long. 67° 20' and 69° 20' e.; borders on Sind and Afghanistan; bounded w. by the Hala Mountains containing the Bolan Pass. It is 150 m. long n. to s., 130 m. wide, abt. 10,000 sq. m.; cap. Gundava. Though almost surrounded by deserts of large area, it has considerable tracts of fertile soil on which cotton, Indian millet, sugar, madder, indigo, and various fruits are cultivated. The inhabitants are chiefly Juts, and the greater part of trading is carried on by Hindus. Pop. abt. 100,000.

CUTE, a. *kŭt* [a familiar contraction for *acute*]: sharp; clever.

CUTH, n. *kóth* [Icel.]: in *N. of Scot.*, the young of the coal-fish: see note under CUDDY.

CUTHBERT.

CUTHBERT, *kūth'bért*: disciple of the Venerable Bede in the monastery of Jarrow, of which he himself was afterward abbot. He was present at the death of his master 735, and has left a beautiful and touching relation of the event in a letter to his fellow-disciple, Cuthwine. It has been often printed; the best editions are those in Twysden's *Decem Scriptores* (Lond. 1652), and in Stevenson's edition of Bede's *Historia Ecclesiastica* (Lond. 1838).

CUTHBERT OF CANTERBURY: native of the kingdom of Mercia; became Bishop of Hereford 736, and Archbishop of Canterbury 740: died 758. An instructive letter was addressed to him by St. Boniface (or Winfrid) on the ecclesiastical abuses of the age. It has been printed more than once, and is in the appendix to the late Prof. Hussey's edition of Bede's *Historia Ecclesiastica* (Oxon. 1846).

CUTHBERT, SAINT, OF DURHAM: abt. 635–687, Mar. 20: one of the three great saints of England in the middle ages; the other two being St. Edmund of Edmundsbury, and St. Thomas-à-Becket of Canterbury: neither his birth-place nor his parentage has been ascertained; but a legend, which was long generally believed, told that he was born in Ireland, and drew his lineage from one of the petty kings of that country. When the light of record first falls upon him, he is a shepherd boy in the kingdom of Northumbria, which then stretched northward to the Forth. In 651, while watching his flock by night on the heights of Lauderdale, he believes that he sees the heavens open, and a company of angels descend upon the earth, and again ascend to heaven, carrying with them the soul of St. Aidan, the pious bishop of Lindisfarne, or Holy Island. The vision determines him to become a monk, and in the same year he enters the monastery of Melrose, of which St. Boisil was then provost or prior, and St. Eata, abbot. When the latter removed to the newly-founded monastery of Ripon, St. C. accompanied him, and was appointed to the office of superintendent of the guests. In 661, St. Boisil died of the plague, which then ravaged Britain, and St. C. was chosen to succeed him as provost or prior of Melrose. While in this office, he distinguished himself by his assiduity in visiting the neighboring villages, and especially the remoter mountain hamlets, sometimes on horseback, oftener on foot, and laboring by his teaching and example to reclaim the people from the superstitious or pagan rites into which they had fallen. After a few years spent in this way, he left Melrose for the island monastery of Lindisfarne, of which he became provost or prior, his old master, St. Eata, being abbot. Longing for an austerer life even than the monastic, he quitted Lindisfarne 676, to become an anchorite, or solitary recluse, in a hut which he built with his own hands on Farne Island. Here, 684, he was visited by Ecgfrid, King of Northumbria, Trumwine, ex-bishop of the Picts, and other great men of the north, who came at the request of the synod of Twyford to entreat that he would accept the bishopric of Hexham. He reluctantly complied with their wishes, but his heart was still with his Northumbrian islands. He ex-

changed the see of Hexham for that of Lindisfarne, and still thirsting after solitude, at the end of two years he resigned his bishopric, and returned to his hut in Farne Island, where he died. The anniversary of his death was a great day of observance in the English Church, which commemorated also Sep. 4, as the anniversary of the day on which his body was translated to Durham. The influence which St. C. exercised upon his age seems to have been due chiefly to his fervent piety and extraordinary asceticism. The gift of a persuasive tongue is ascribed to him, and he seems to have had skill and prudence in the management of affairs, but nowhere is there any trace of his learning.

The fame of St. C., which had been great during his life, became far greater after his death. Churches were dedicated to him throughout all the wide country between the Trent and Mersey on the south, and the Forth and Clyde on the north. When his tomb was opened at the end of 11 years, it was believed that his body was found incorrupt, and so, for more than 800 years, it was believed still to continue. It remained at Lindisfarne till 875, when the monks, bearing it on their shoulders, fled inland from the fury of the Danes. After many wanderings through the s. of Scotland and the n. of England, it found a resting-place at Chester-le-Street 882. It was transferred to Ripon 995, and in the same year it was removed to Durham. Here, inclosed in a costly shrine, and believed to work daily miracles, it remained till the Reformation, when it was buried under the pavement of the cathedral. The grave was opened 1827, when a coffin, ascertained to have been made in 1541—when the body was committed to the earth—was found to inclose another, which there was reason to suppose had been made in 1104; and this again inclosed a third, which answered the description of one made in 698, when the saint was raised from his first grave. This innermost case contained, not, indeed, the incorruptible body of St. C., but his skeleton, still entire, wrapped in five robes of embroidered silk. Fragments of these, and of the episcopal vestments, together with a comb and other relics, found beside the bones, are seen in the cathedral library. The asceticism which distinguished St. C. in life long lingered round his tomb. Until the Reformation, no woman was suffered to approach his shrine; the cross of blue marble still remains in the cathedral floor which marked the limits beyond which female footsteps were forbidden to pass, under pain of instant and signal punishment from the offended saint. His wrath, it was believed, was equally prompt to avenge every injury to the honor or possessions of his church. It was told that William the Conqueror, anxious to see the incorrupt body of the saint, ordered the shrine to be broken open; but scarcely had a stroke been struck, when such sickness and terror fell upon the king, that he rushed from the cathedral, and, mounting his horse, never drew bridle till he had crossed the Tees. A cloth, said to have been used by St. C. in celebrating mass, was fashioned into a standard, which was believed to insure victory to the army in whose ranks it

CUTHBERT'S BEADS—CUTLER.

was carried. Flodden was only one of many fields in which the defeat of the Scots was ascribed to the banner of St. Cuthbert. It hung beside his shrine until the Reformation, when it is said to have been burnt by Calvin's sister, wife of the first Protestant dean of the cathedral.

The life of St. C. was twice written by the Venerable Bede—briefly in vigorous hexameters in his *Liber de Miraculis Sancti Cuthberhti Episcopi*; at greater length, in prose, in his *Liber de Vita et Miraculis Sancti Cudberhti Lindisfar-nensis Episcopi*. In this latter work, he made use of an earlier life by a monk of Lindisfarne, which is still preserved. Besides these lives—all of which have been printed more than once—and what is told of St. C. in Bede's *Historia Ecclesiastica Gentis Anglorum*, the chief ancient authorities are the *Historia Translationis S. Cuthberti*, published by the Bollandists, in the *Acta Sanctorum, mens. Martii*, vol. iii.; the *Libellus de Exordio Dunhelmensis Ecclesie* by Symeon of Durham; the *Libellus de Nativitate S. Cuthberti de Historiis Hybernensium excerptus*, and the *Libellus de Admirandis B. Cuthberti Virtutibus*, by Reginald of Durham, both published by the Surtees Society. There are two modern memoirs of St. C.—the late Rev. James Raine's *St. Cuthbert* (Durham, 1828), and the Very Rev. Monsignor C. Eyre's *History of St. Cuthbert* (Lond. 1849).

CUTHBERT'S BEADS, ST.: see BEADS.

CUTICLE, n. *kū'tī-kl* [F. *cuticule*—from L. *cutic'ūla*, thin skin—from *cūtis*, the skin]: the thin exterior coat of the skin; the scarf-skin or epidermis (see SKIN): the pellicle which forms the outer layer of the body among the Infusoria; the thin external covering of a plant. CUTICULAR, a. *-tik'ū-lér*, pertaining to the cuticle or external coat of the skin.

CUTIS, n. *kū'tis* [L. skin]: the inferior vascular layer of the skin, often called the *cutis vera*, the *corium*, the *derma* or *dermis*, or the true skin, in contradistinction to the cuticle or outer skin.

CUTLASS, n. *kūt'lās* [a corruption of OE. *curtal-axe*; F. *coutelas*, a hanger or sword: It. *coltello*; Venet. *cortelo*, a knife]: a sword abt. 3 ft. long, broad and straight, with jappaned hilt; used mostly in the navy by seamen in boarding an enemy's ship: see CURTLE-AX.

CUTLER, n. *kūt'lér* [OF. *coutel*, a small knife—from It. *coitello*—from L. *cultellus*, a small knife—from *culter*, a knife: F. *coutelier*; OF. *cotelier*, a maker of knives]: one who makes knives and other cutting instruments.

CUTLER, *kūt-lér*, MANASSEH, LL.D.: 1742, May 3—1823, July 28; b. Killingly, Conn.: Congl. minister; botanist and statesman. He graduated at Yale College 1765, was admitted to the bar of Mass. 1767, licensed to preach 1770, and ordained pastor of the Congl. parish at Ipswich, Mass. 1771, Sep. 11. He was appointed chaplain in the continental army 1776, studied and practiced medicine, and was elected a member of the American Acad. 1781. He led the expedition that settled Marietta, O., 1788, was commissioned

CUTLER—CUTLERY.

judge of the supreme court of Ohio terr., but declined the office, 1795, drafted the ordinance that excluded slavery from the n.w. terr. 1787, and was member of congress as a federalist, 1801, Dec. 7—1805, Mar. 3. He contributed numerous papers to the American Acad., examined and classified 350 species of plants found in New England, and received his degree from Yale, 1791.

CUTLER, TIMOTHY, D.D.: 1685—1765, Aug. 17; b. Charlestown, Mass.: minister. He graduated at Harvard Univ. 1701, spent 10 years as pastor of the Congl. church at Stratford, Conn., was appointed rector of Yale College 1719, and was dismissed for maintaining the divine right of episcopacy, 1722. He took priest's orders in England, and was rector of Christ Episc. Church, Boston, 1723, July, till his death. He received his degree from Oxford and Cambridge, 1723.

CUTLERIA, n. *küt-lē'rī-a* [named by Dr. Greville after Miss *Cutler*, of Sidmouth, a zealous student of marine botany]: genus of algæ, ord. *Cutleriaceæ* (Fucoid Algæ) of which the type is *Cutleria multifida*. CUTLERIACEÆ, family of fucoid algæ.

CUTLERY: general name for all kinds of cutting instruments, such as knives, forks, scissors, razors, etc. The workman who makes these is called a cutler; the sword-maker, a sword-cutler; but in England, the manufacturer of workmen's tools is called a 'tool-maker,' or a '*steel toy-maker*,' not a cutler. In Birmingham, for example, such implements as hammers, chisels, pincers, hatchets, etc., are technically called toys.

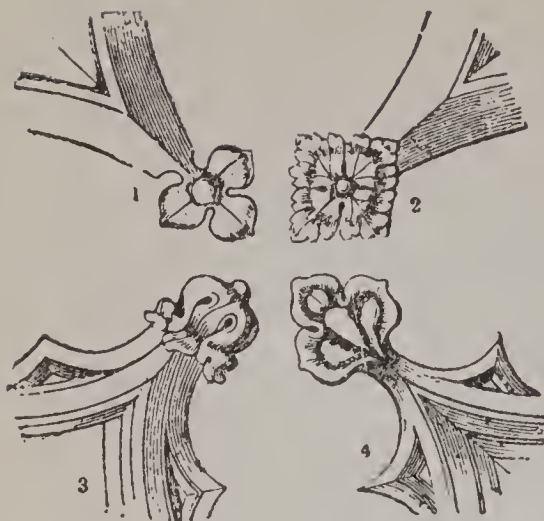
Shells, flints, and other sharp-edged stones formed the rudest and most ancient cutting instruments, and the earliest traces of human existence in many lands, are associated with stone 'celts' and other weapons and cutting implements. These were followed by bronze weapons and implements, which were in use among the Romans for some purposes till near the Christian era, bronze surgical instruments having been found at Pompeii. This bronze, like steel, could be made soft for working into shape, and then hardened, but by the opposite means used for hardening and softening of steel, bronze being softened by sudden cooling from a red heat, and hardened by slow cooling. Some cities in Spain and the north of Italy acquired high reputation for the manufacture of cutting instruments, particularly swords, during the middle ages, when the chivalry of the period sought the best equipments. Later, all European countries have been outstripped by England as regards tastefulness, excellence, and cheapness in cutlery. In this kind of manufacture, the lead is taken by Sheffield, which had gained a name for its *whittles* as early as the reign of Richard I. Why, with their ingenuity, taste, and skill in the arts, neither the French nor Belgians succeed in their C., would be difficult to explain. Certain it is that their C. is comparatively inferior as regards temper and finish, while their apparent incapability of making the delicate hinges and springs of clasp-knives,

has often been remarked. However, continental C. is rapidly improving, particularly in table-knives, of which an excellent French article is now made. In the manufacture of American axes, Canada has made marvellous advances, its produce as respects this article excelling that of England.

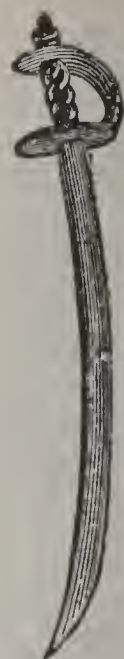
Good *table-knives* are made of steel and iron welded together; the tang, which goes into the handle, and the shoulder, are of iron, and the blade of steel. The tang and shoulder are forged from bar-iron, and the blade from shear or cast steel. Knife-blades, razor-blades, and other small articles, are usually forged into their required shape while still attached to the bar, which serves for the workmen to hold them by, and is called the 'porter.' When the bar becomes too short, it is grasped in a pair of tongs held close by a ring which clamps them by sliding up their conical handles. Two men are employed in forging such work, which is said to be 'two-handed.' The principal workman, or 'fireman,' uses a small hammer of 2 to 4 lbs. weight, while the 'hammerman' wields the sledge-hammer, weighing from 10 to 15 lbs. The 'fireman,' who attends the heating as well as the anvil-work, directs the hammerman, whose blows merely follow those of the small directing hammer of the fireman. In *drawing down* or *reducing* a bar both in length and width, the flat face of the hammer is used; but when the length or breadth alone is to be extended, only the 'pane' or narrow edge of the hammer. The concavity of razor blades is made by hammering the blade on a small round-faced anvil; the notch or 'nail-hole' of a penknife is struck by means of a chisel of the required form. Superior work, such as razor-blades, are *smithed* after forging—that is, beaten upon an anvil, to condense the metal as much as possible—and slightly ground or *scorched* on a rough stone, to finish the shaping, and remove the 'scale' or black oxidized surface, which would interfere with the color of the tempering. Common knives are made entirely of iron, and the difference of price arises not merely from the difference of cost of the material, but from the greater facility of working. In many articles composed of steel welded to iron, the saving of steel is not the only advantage, for steel being more brittle than wrought iron, it is very desirable, in all articles subject to a transverse breaking strain or to concussion, that every part except the cutting or working edge should be of iron. Thus, a hatchet made entirely of steel would be far less durable than one of iron with a welded steel cutting-edge. A table-knife with a steel tang would be weaker than one with an iron tang. Hammers should only be *faced* with steel, etc.

The great usefulness of steel for all kinds of implements used for cutting or exposed to wearing friction depends upon its property of acquiring a high degree of hardness when heated and suddenly cooled, and of then being capable of softening again in various degrees by reheating moderately: see TEMPERING METALS.

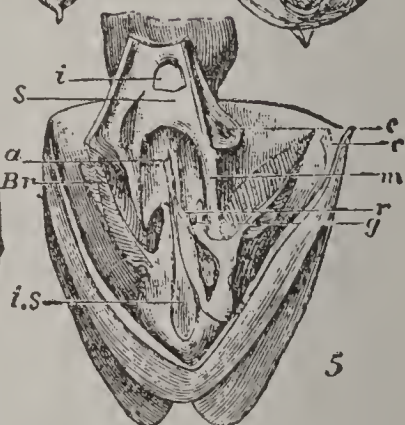
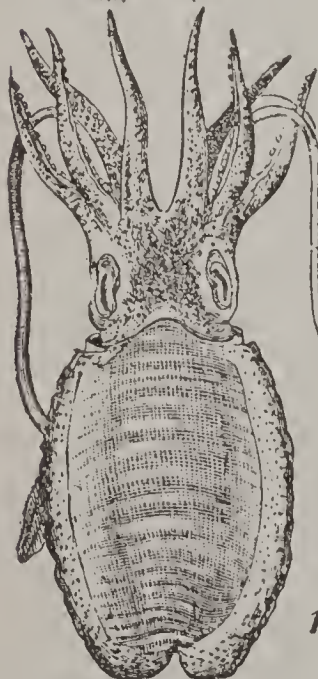
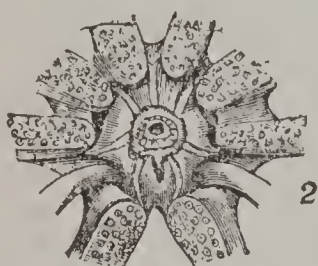
Table-forks are forged rudely into the shape of the tang



Cusps.—1, Monument of Edward III., Westminster Abbey (brass); 2, Henry VII.'s Chapel; 3, Monument of Sir James Douglas, Douglas Church; 4, Beauchamp Chapel, Warwick.



Cutlass.



Cuttle-fish.—1, *Sepia officinalis* from the dorsal aspect; 2, View of the Mouth, showing its Lip and the bases of the Arms and Tentacles; 3, Shell seen from the ventral surface; 4, The same in lateral view; 5, The Animal with the Mantle divided in the middle line to expose the Branchial Cavity: s, Siphon; i, Its valve; c, Pit in the base of the siphon; c', Prominence on the mantle, which fits into it; m, Muscle passing backward from the siphon to the mantle; a, Termination of the intestine; Br, Gill; r, Renal opening; g, Genital opening; i.s., Ink sac. At the base of the right gill a portion of the membrane has been removed to show the Branchial Heart.

CUTLET—CUTTACK.

and shank, first as though but a single thick prong were required; the part for the prongs is then beaten out, and a stamping-die is brought down upon it, which forms the prongs, with a thin film of steel between them; this is cut out by a cutting-die. Then they are softened and filed up, again hardened, and tempered, and ground, to smooth and finish. The dry-grinding of forks, needles, etc., is a very deleterious occupation, on account of the particles of steel which enter the nostrils of the workmen, and produce painful irritation, followed by a peculiar pulmonary disease called 'grinders' asthma,' which is said to shorten life so seriously that few dry-grinders exposed to the steel dust reach 40 years of age. Many remedies have been proposed for this. A magnetic mouthpiece was invented; but the workmen would not wear it, on account of its novelty, its grotesque appearance, the trouble of cleaning it, and the belief that if their trade were made more healthful, greater numbers would enter it, and wages would be reduced. A revolving fan, which sets in motion a current of air, that is carried by a pipe to the outside of the building, has been used with greater success, and is now in general use when it can be applied, though its introduction was much opposed by the workmen. In the needle-trade, especially, it has been most beneficial, entirely removing danger from the operator. The use of wet stones would, of course, fully obviate the evil, but they are not applicable to many kinds of work, especially that which is ground before hardening, as the stone wears away very rapidly under these circumstances.

Penknives and other pocket-knives are the work of many hands. Besides the blades, there are the separate pieces of the spring, the handle, rivets, etc., the making of each of which is a distinct trade. All these pieces are finally fitted and put together by the finisher; a good two-bladed knife passes through his hands from 70 to 100 times. The difference in the amount of labor bestowed on the best and the commonest C. is very remarkable, and the difference of price is of course proportionate.

CUTLET, n. *kūt'let* [F. *cotelette*—from *côte*, a rib, a slope: a dim. of Eng. *cut* (see CUT 1)]: a small chop or slice of meat for cooking—generally applied to veal.

CUTOSE, n. *kū'tōz* [L. *cutis*, skin]: cutin, a kind of cellulose forming the fine transparent membrane which covers the exposed parts of vegetables.

CUTTACK *kūt-tăk'*: district in the province of Orissa, presidency of Bengal; on the n.w. coast of the Bay of Bengal; 3,517 sq. m. pop. (1891) 1,494,784.

The name Cuttack, however, has been generally used to include the three districts of C., Pooree, and Balasore; joint area 8,056 sq. m.; pop. est. 3,750,000. This larger district extends in n. lat. from 19° 40' to 21° 45', and in e. long. from 85° 8' to 87° 31'. The Mahanuddee is the main river, its delta being wholly comprised within the district. Among the natural features of the country, the most remarkable is the Chilka Lake which is, for many miles,

CUTTACK—CUTTER.

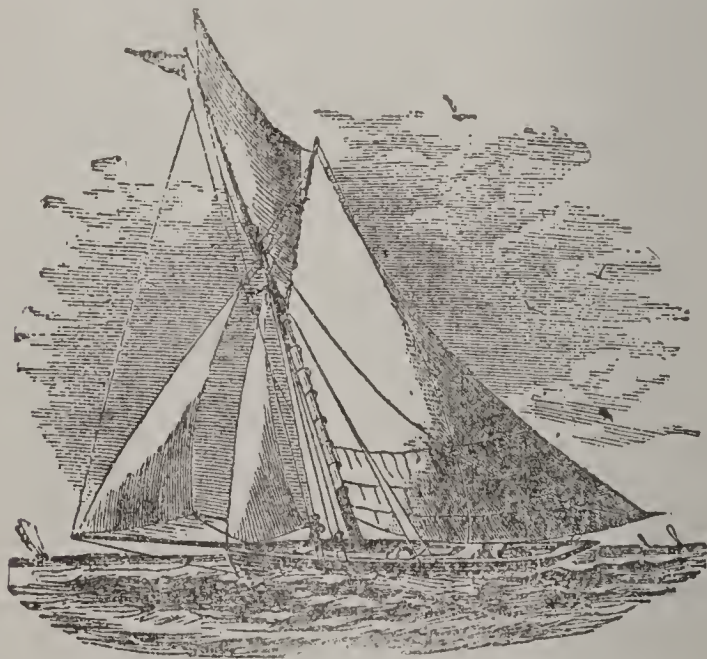
separated from the sea by a strip of sand not more than 300 yards wide. Next to Cuttack, the chief towns, reckoning from the s., are Poorree, with its temples of Juggernaut, at the mouth of the most southerly arm of the Mahanuddee; Kanarak, or the Black Pagoda, about 20 m. farther n. and Balasore. The trade of the district is inconsiderable. Iron ore is said to be found.

CUTTACK' ('Royal Residence'): capital of a district of its own name in the province of Orissa, presidency of Bengal; immediately below the bifurcation of the Mahanuddee, thus occupying the apex of the delta of that river. The advantage, however, of this position, in a political and commercial point of view, seems neutralized by the cost of providing against the encroachments of the bordering streams. The city has no pretensions to architectural beauty. It has very little trade; and its manufactures are principally shoes and brass cooking-vessels. C. is 220 m. s.w. of Calcutta; lat. $20^{\circ} 28'$ n., and long. $85^{\circ} 55'$ e. Pop. (1881) 42,656; (1891) 47,186.

CUTTEAMUN'DU: juice of *Euphorbia Cuttimundu*, a species of spurge (q. v.), native of India, particularly of the Northern Circars. It is used for cementing iron with other substances, as for uniting the blade and handle of a knife. The fresh juice is used as a vesicant. In a dried state, it is capable of being molded into any form, and a great variety of articles may be made of it, as of gutta-percha.

CUTTEE, n. *kūt'tē*: in *weaving*, the box to hold the quills in a weaver's loom.

CUT'TER: name of two kinds of small vessels. The cutters used by yachtsmen, smugglers, and revenue cruisers,



Cutter.

and which are built with especial reference to speed, have a single mast, and a straight running bowsprit that can be run in or out occasionally. They are much like sloops.

in rig, but have larger sails. Such small vessels occasionally venture on long voyages. In 1857, the *Charter Oak*, a C. of 23 tons, crossed the Atlantic from New York to Liverpool; and, in 1858, the *Christopher Columbus*, a C. of 45 tons, with a crew of only two boys, besides the owner, made the same voyage in 45 days. Schooners and sloops have always been the favorites of American yachtsmen for racing purposes. Prior to 1885, all the international contests for the America cup were sailed with them. In that year the Royal Yacht Squadron of England sent over the *Genesta*, a C., which was beaten by the sloop *Puritan* of the Eastern Yacht Club by 16 min. 19 sec. and 1 min. 38 sec. In 1886, the C. *Galatea* of the Royal Northern Yacht Club was beaten by the sloop *Mayflower* of the Eastern Yacht Club by 12 min. 2 sec. and 29 min. 9 sec.; and in 1887, the C. *Thistle* of the Royal Clyde Yacht Club was beaten by the sloop *Volunteer* representing the Eastern and New York Yacht Clubs by 19 min. 23 $\frac{3}{4}$ sec. and 11 min. 47 $\frac{3}{4}$ sec. In the annual regattas 1887, no C. was entered for that of the Atlantic Yacht Club, one won a prize in the New York Yacht Club, none in the Seawanbaka Corinthian Club, one in the Eastern Yacht Club, Boston, and two in the Corinthian Yacht Club.—The cutters belonging to ships of war are clineher built boats, about 24 to 28 ft. in length, employed for various purposes; they weigh from 10 cwt. to 24 cwt. each. Two such cutters are supplied to every ship of war except of the smallest kinds.

CUTTINGS: branches or portions of branches of trees or shrubs, employed to produce new plants, by the insertion of the lower end into the earth. By care, and in the most favorable circumstances, almost any tree or shrub may be propagated by C., but some only with great difficulty, and soft-wooded trees or shrubs most easily. Nothing is more easy than to propagate willows, fuchsias, currants, gooseberries, etc., in this way; but many other plants, commonly propagated by C., require greater attention on the part of the gardener, warmth, a uniform damp atmosphere, and shade. Some kinds of apple are occasionally propagated by C., especially in warm climates.

CUTTLE-FISH, n. *kūt'tl-fish* [AS. *cudele*, a cuttle-fish: OE. *cuttle*, a knife—from OF. *coutel*, a knife—from the knife- or feather-shaped bone or shell contained in its body: Ger. *kuttel-fisch*; old Dut. *kuttel-visch*—from *kuttel*, a gut, bowels], (*Sepia* and *Sepiadæ*): genus and family of cephalopodous mollusks of the order *Dibranchiata*: see CEPHALOPODA. The body is oblong and depressed, sack-like, with two narrow lateral fins of similar substance with the mantle. There is an internal shell lodged in a sack on the back part of the mantle, somewhat oval and blade-shaped, being comparatively thick near the anterior end, where it is terminated by a sharp point affixed, as it were, to its general outline; the whole shell is light and porous; it is formed of thin plates with intervening spaces divided by innumerable partitions; and consists chiefly of carbonate of lime with a little gelatinous and other ani-

CUT-WORM.

mal matter, which is most abundant in the *phragmocone*, or internal harder part of the shell, where also the laminæ and partitions are closer than in the outer part. The eyes are very large, and the head is furnished with eight arms, each of which has four rows of suckers, and two long tentacles expanded and furnished with suckers on one side at the extremity. The animal is the most highly organized of invertebrates. The COMMON C. (*Sepia officinalis*) has a skin smooth, whitish, and dotted with red. It attains the length of a foot or more. It is one of the pests of fishermen; often, together with calamaries, partially devouring the fish which have been caught in their nets. In Scotland, the fishermen call it the O fish. It is not itself easily caught, being very active in making its escape by swimming, and also promptly throwing out its ink to darken the water around it. It is sometimes cast upon the shore, but far more frequently its bone, which is used for making pounce, tooth-powder, etc., for forming molds for small silver castings, for polishing, and for other purposes in the arts; and was formerly used in medicine as a corrective of acidity in the stomach. The ink of the C. furnishes the valuable pigment, *Sepia* (q.v.), which is said by some chemists to contain a peculiar animal principle called *Melanine* [Gr. *melas*, black], and is wonderfully indestructible. Dr. Buckland indeed found the pigment remaining in fossil mollusks akin to the C. to be fit for use, and to make



Cuttle-fish.



Cuttle-fish bone.

excellent sepia, notwithstanding all the unreckoned ages that had elapsed since its secretion by the living organisms.—The eggs of the C. are frequently cast ashore, clustered together like grapes, and are known to the frequenters of the coast as *Sea-grapes*.—The flesh of the C. was esteemed by the ancients. A receipt for making a C. sausage will be found in Athenæus.—Numerous species of C. inhabit different seas.—CUTTLE, n. in OE., one who blackens the character of others; a foul-mouthed person.

CUT-WORM: fleshy, dingy-colored larva of *Agrotis* and kindred genera: common and very destructive in corn, cotton, and tobacco fields, and attacking nearly all transplanted vegetables which it cuts off below or even with the surface of the ground. Sometimes it entirely destroys the grass in mowing lots and pastures; works mostly at night. Remedies: Fall plowing, which exposes the worms to frost; winding paper around the stems of transplanted vegetables; poisoning, by scattering green sods sprinkled with a solu-

tion of Paris green among the plants to be protected (dangerous); digging up and killing the pest wherever indications of its work appear.

CUTTY, a. *kŭt'ti* [W. *cutt*, a little piece (see CUT 1)]: a word used as the first part of a compound, meaning short or small. CUTTY-PIPE, a tobacco-pipe with a short stem. CUTTY-STOOL, in *Scot.*, a small, low, three-legged seat: on such a stool, anciently in the Scottish church, offenders against chastity were compelled to sit while a public reprimand was uttered by the minister.

CUVIER, *kŭ ve-ā'* or '*kŭ' ve-ér*, GEORGES CHRÉTIEN LÉOPOLD DAGOBERT, Baron: 1769, Aug. 23—1832, May 13; b. Montbéliard, dept. of Doubs, a town which then belonged to Würtemberg. His father was an officer in a Swiss regiment. Having made rapid progress in learning at the Montbéliard gymnasium, C. entered, 1784, the Karlsakademie at Stuttgart. In 1788, he took a situation as private tutor in the family of Comte d'Héricy, near Fécamp, Normandy, where for six years he pursued studies in natural history. Geoffroy St. Hilaire and other eminent Parisian savans, casually becoming acquainted with him, were startled by the novelty and comprehensiveness of his views on zoology, and St. Hilaire induced him to come to Paris, where, 1795, he was appointed prof. in the École Centrale of the Panthéon. Soon C. was made assistant to Mertrud, teacher in comparative anatomy at the Jardin des Plantes, and began that collection in natural history which ultimately became the largest in Europe. In 1796, he was made a member of the National Institute; in 1806, he succeeded Daubenton in the Collège de France; and, in 1802, was made perpetual sec. of the Institute. He gradually rose in the estimation of the emperor, and, in 1808, was commissioned to superintend the institution of academies in the new territories attached to France. Shortly before the fall of Napoleon, C. was admitted into the council of state. The restoration did not deprive him of his honors, but added to them; he was made chancellor of the Univ. of Paris, and, henceforward, received from time to time new rewards for his services to science. After a visit to England (1818), where he was received with great honors, he was, 1819, admitted into the cabinet by Louis XVIII., and, 1826, was made grand officer of the Legion of Honor; but his decided opposition to the royal measures for restricting the freedom of the press lost him the favor of Charles X. Under Louis Philippe, he was made a peer of France 1831, and in the following year was nominated minister of the interior, when he was suddenly attacked with paralysis, of which he died.

It is difficult to give a summary of the merits of C., so various were his attainments, so great was his success in so many departments. He laid the foundation of the now universally recognized method of classification in zoology (q.v.), and raised comparative anatomy (until his time merely a heap of unconnected details) to the dignity of a science. After a long series of patient observations on numerous animals, especially the hitherto little-known or-

der of mollusca, he published (1801-05) his *Leçons d'Anatomie Comparée*, completed by the *Mémoire pour servir à l'Histoire de l'Anatomie des Mollusques* (1816). With admirable sagacity, he applied the principles of his comparative osteology to the remains of fossil vertebrate animals, and opened a field of investigation in which numerous explorers have since successfully labored. His *Recherches sur les Ossements Fossiles des Quadrupèdes* (1821-24) is a mine of information in natural history, and affords the strongest arguments in favor of the theory of a progressive series of animals, advancing from the most simple to the most complex forms of organization. C.'s rare faculty of expressing scientific truths in popular and elegant style was seen in his celebrated *Discours sur les Révolutions de la Surface du Globe et sur les Changements qu'elles ont produits dans le Règne Animal* (latest edition, Paris 1851). This discourse was published as an introduction to the *Recherches sur les Ossements Fossiles*. In concert with Valenciennes, C., 1828, began a *Natural History of Fishes*, founded on the largest ichthyological collection ever made by an individual: it was continued by Valenciennes. The éloges delivered by C. (pub. in the *Recueil d'Eloges Historiques*, 1819) were valuable contributions to the history of science.

In public life, C. was as remarkable for activity as in the quiet work of the study. He never blindly surrendered himself to any party, but at all times gave proof of an honest, sagacious, and resolute character. In his plans for the extension and improvement of national education, he was zealous and indefatigable, as also in his efforts for the welfare of the Protestant Church in France, of which he was a member.—Mrs. R. Lee's *Memoirs of Baron C.* (Lond. 1833); Pasquier's *Eloge de C.* (Paris 1833).

CUVIERA, n. *kô-vĩ-ěr'a* [from Georges Cuvier (q.v.)]: genus of *Pteropoda*, with a cylindrical transparent shell, the animals with simple narrow fins. Four recent species are known, from the Atlantic, India, and Australia, and four fossil, the latter from the Miocene.

CUXHAVEN, *kűks-hā'vèn* or *kűks'hā-fèn*: town of Germany, on the left or s. bank of the Elbe, just where it is lost in the German Ocean. It is about 60 m. distant from Hamburg, to which free city it belongs. C. is a small place, but of importance as the port whence the Hamburg steamers ply when in winter the Elbe is frozen over. The harbor affords good shelter, and is much resorted to by vessels waiting for favorable winds. Pilots for the Elbe are taken in here. Pop. (1880) 2,200; (1885) 4,490.

CUYLER, *kĩ'lér*, THEODORE LEDYARD, D.D.: Presbyterian clergyman: 1822, Jan. 10 — — — —; b. Aurora, N. Y. He graduated at Princeton Coll. 1841, and at the theol. sem. 1846. His early pastorates were in Burlington and Trenton, N. J., and in the Market St. Ref. Dutch Ch., N. Y. In 1860, he became pastor of the Lafayette Ave. Presb. Ch., Brooklyn, which greatly prospered through his active pastorate of 30 years. Deafness caused him to resign (1890), whereupon the church appointed him pastor emeritus. He has been a prolific writer for the religious

press; many of his articles have been republished in volumes, and a number of them have been translated into foreign languages.

CUYP, *koyf*, AELBERT: painter: 1605–91; b. Dordrecht; son of Jacob C. He excelled in the painting of cattle grazing or reposing, moonlights, wintry landscapes, still waters with ships, horse-markets, hunts, camps, and cavalry-fights. During his lifetime and long after, his pictures, though in many respects equal to those of Claude, were held in little estimation. Opinion has changed regarding them. One of his still waters, sold 1777 for 416 guilders (abt. \$170), brought 12,720 guilders (more than \$5,000) in 1844. England is particularly rich in his works. He died at Dordrecht.

CUYP, BENJAMIN: painter, at Dordrecht; nephew of Aelbert C. He painted biblical pieces in Rembrandt's style, and familiar scenes of country-life. His best works are in the manner of Teniers. His sea-shores have less repute. The dates of his birth and death are unknown, but, from the multitude of his pictures, it is conjectured that he lived to a great age.

CUYP, or KUYP, JACOB GERRITSE, commonly called the Old C.: 1575–1650; b. Dordrecht: painter. His representation of cows and sheep, battles and encampments, are clever, but his fame rests principally upon his excellent portraits. His coloring is warm and transparent: his manner, free and spirited.

CUZCO: department of Peru; subdivided into 11 provinces; lying wholly in the sierra or Andine region of the country, having the coast on the w., and the montana, or Transandine territory, on the east. It stretches in s. lat. from 13° to 15°, and in w. long. from 70° to 73°; area 156,270 sq. miles. In addition to the city of C., it has the towns of Abancay and Urubamba. Pop. estimated (1896) 438,600.

CUZCO, *kôs'kō*: city in Peru, originally capital of the Incas (in the language of the Incas, says Garcilasso, C. signifies 'navel'), and the centre of an empire, which, besides the territory of the existing republic, comprised Bolivia, most of Ecuador, and portions of Chili and the Argentine Confederation. C. stands on the Guatanai, one of the remotest headwaters of the Amazon; lat. 13° 31' s., and long. 72° 2' w., at the e. end of that section of the Andes known as the Knot of Cuzco, 11,000 ft. above sea-level. Notwithstanding its aboriginal name, C., with the exception of some neighboring ruins, part of which perhaps date beyond the era of the Incas, is really of Spanish origin, being built in the form of a square, and presenting many handsome edifices. It is about 200 m. to the n.n.e. of Arequipa, having its maritime outlet in Islay, the port of that city. The manufactures of the place are cottons, woollens, embroidery, and jewelry. It is fourth in size of Peruvian cities; pop. abt. 20,000. The province of Cuzco, otherwise styled the Cereado, embraces nothing beyond the city itself but the suburb of San Jeronimo.

CWT.—CYANOGEN.

CWT., n. pronounced *hundred weight*: a contr. for hundred-weight—*c* first letter of *L. centum*, a hundred—*w t*, first and last letters of *weight*.

CYAMELIDE, n. *sī-ām'ě-līd* [Eng. *cyanic*; and *amelide*]: a white porcelain-like mass formed in the preparation of cyanic acid.

CYAMUS, n. *sī'a-mūs* [*L. cyamos*: Gr. *kuamos*, a bean, the Egyptian bean, *Nelumbium speciosum*]: in *zool.*, typical species of *Cyamidae*. CYAMIDÆ, *sī-ām'ī-dē*, family of crustaceans, ord. *Læmodipoda*. The species are called whale-lice: see WHALE-LOUSE.

CY'AMUS BALÆNA'RUM: see WHALE LOUSE.

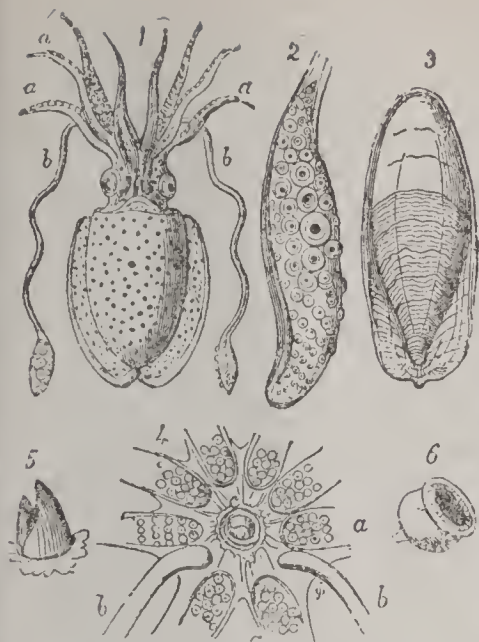
CYANAMIDE, n. *sī-ān'ā-mīd* [compounded of *cyanic* and *amide*]: a substance obtained by the action of ammonia on cyanogen chloride.

CYANATE, n. *sī'ā-nāt* [Gr. *kūānos*, dark-blue]: a salt composed of *cyanic acid* and a base. CYAN'IC, a. *-ān'īk*, relating to blue—applied to a series of colors having blue as the type. Cy'ANIDE, n. *-ā-nīd*, a compound of cyanogen with a metal or a radical. CYANIDE OR KAKODYLE a compound of cyanogen and kakodyle, forming a most deadly poison, rising in the form of vapor from the exposure of a few grains, in a room, or in the open air—proposed for use in warfare in the form of asphyxiating shells.

CYAN'IC AC'ID: a compound produced when cyanogen gas is passed into potash solution: its formula is CHNO , or HCyO .

CYANITE, n. *sī'ā-nīt*, called also KYANITE, or DISTHENE, or SAPPARE [Gr. *kūānos*, dark-blue]: mineral of the garnet family, composed of alumina and silica; often occurring crystallized, and generally in broad prisms; sometimes colorless, red, yellow, etc., but frequently of a fine sky-blue, slightly tinged with violet; it is transparent, and sometimes beautifully opalescent. It occurs chiefly in mica-slate, talc-slate, and granite; is found in different parts of Europe, Asia, and America, and is sometimes used as a gem. Cy'ANOSE, n. *-nōs*, or CYAN'OSITE, n. *-ān'ō-zīt*, sulphate of copper or blue-vitriol, used as a pigment and dye-stuff.

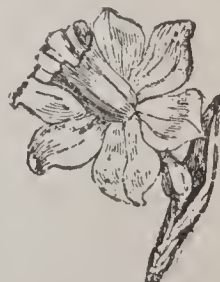
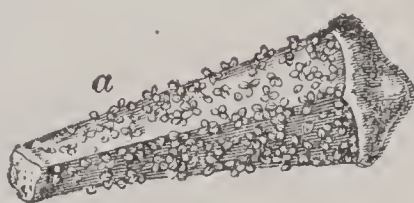
CYANOGEN, n. *sī-ān'ō-jěn* [Gr. *kūānos*, dark-blue; *gennāō*, I produce], (C_2N or Cy): a compound organic salt radical, interesting mainly as the principal component of hydrocyanic or prussic acid. It is most easily prepared by heating the cyanide of mercury (HgCy) or the cyanide of silver (AgCy) in a tube, when the *C.* is evolved as a gas at ordinary temperatures, but can be condensed by cold and pressure into a thin, colorless liquid, which freezes at -30°F . Gaseous *C.*, a poisonous compound of carbon and nitrogen; has an odor like that of crushed peach-leaves; has a specific gravity of 26 (hydrogen=1), is inflammable, and burns in air or in oxygen with a characteristic purple or rose tint; is soluble in water to the extent of 4 to 5 volumes of the gas in 1 of water. It is an essential ingredient in Prussian blue; and combines with metals, such as potassium, to form a class of important cyanides, as



1, Cuttle-fish (*Sepia officinalis*): *a, a*, Arms with suckers; *b, b*, Tentacles with suckers on the ends; 2, End of one of the tentacles, showing the suckers; 3, Cuttle-fish bone—the interior shell; 4, Upper view of central part of animal, showing the mouth (*c*), arms (*a, a*), tentacles (*b, b*); 5, The beak or mouth; 6, One of the suckers.



Cycadaceæ.—Fig. 1. *a*, *Cycas Normanbyana*; *b, c*, *Cycas media*.



Cyathiform.

Cycadaceæ.—Fig. 2. *a*, Stamen of *Cycas circinalis*, under surface; *b*, Group of pollen-sacs (Microsporangia); *d*, Pollen-grain of *Ceratozamia*; *c*, The same germinating; *e*, Carpellary leaf of *Cycas revoluta*, with lower pinnæ reduced and bearing ovules; *f*, Stamen of *Zamia integrifolia*.

CYANOHYDRIC ACID—CYANURIC ACID.

the cyanide of potassium: see POTASSIUM: HYDROCYANIC ACID: etc.

CYANOHYDRIC ACID: see HYDROCYANIC ACID.

CYANOMETER, n. *sī'ā-nōm'ě-tēr* [Gr. *kŭānos*, dark-blue; *metron*, a measure]: instrument for ascertaining the intensity of the blueness of the sky or ocean; a disk divided into sections whose blue tint increases on a graduated scale—the section whose tint is exactly the same with that of the sky seen through it, showing the degree of the sky's blueness.

CYANOPHYLL, n. *sī-ān'ō-f'īl* [Gr. *kŭānos*, dark-blue; *phyllon*, a leaf]: a supposed blue coloring matter formed in the decomposition of 'chlorophyl.'

CYANOSIS, n. *sī'ā-nō'sīs* [Gr. *kŭānos*, dark-blue]: in *med.*, diseased condition arising from a congenital defect in the heart which causes a deficiency of pure arterial blood; characterized by blueness of the skin, or lividity of complexion; with fulness of the capillaries and minute veins, especially of the face and lips: see HEART, DISEASE AND MALFORMATION OF.

CYANOTYPE, n. *sī-ān'ō-tīp* [Gr. *kŭānos*, dark-blue; *typos*, an impression]: process of taking photographs in Prussian-blue; also the photographs so produced.—*Cyanotype processes*, in photography, are those in which the compound radical cyanogen is employed; they were discovered by Sir John Herschel, and depend for their successful practice on the reduction of a persalt of iron to the state of protosalt, by the action of light, in the presence of organic matter.

Good paper is immersed in a solution of ammoniocitrate of iron of the strength of 40 grains to 1 ounce of water: it is then dried, and exposed—at any convenient time during a fortnight—under a negative, when a picture of a pale brown tint becomes faintly visible upon a yellow ground; it is then brushed over with a solution of ferrocyanide of potassium (yellow prussiate of potash), which develops the picture of a deep blue tint; and this may be further deepened by immersion in a solution of carbonate of soda, which has the effect, at the same time, of removing the unaltered ammoniocitrate, and permanently fixing the picture. Similar results may be obtained by employing ferridecyanide of potassium (red prussiate of potash), or a mixture of the ferridecyanide and ammonio-citrate, in which latter case the paper is sensitive as soon as treated with the mixed solutions, and must therefore be dried in the dark. To fix the picture, it is necessary only to wash with water. A subsequent treatment with a weak solution of proto-nitrate of mercury has the effect of apparently removing the whole of the picture. If the mercury salt, however, be perfectly washed away, and the picture dried, and ironed with a very hot iron, it is speedily reproduced in all its vigor.

CYANURIC ACID, n. *sī'ā-nū-rīk* [Gr. *kŭānos*, dark-blue; *ouron*, urine]: organic acid, a solid crystalline modification of cyanic acid; formula $C_3N_3H_3O_3$, $2H_2O$; it is obtained by heating urea to expel ammonia, or by the destructive distillation of uric acid.

CYAR—CYCADACEÆ.

CYAR, n. *sî'âr* [Gr. *kuar*, a hole, especially of a needle] the orifice of the internal ear.

CYATHAXONIA, n. *sî-a-thăks-ô'nî-a* [L. *cyathus*; Gr. *kuathos*, a cup, and *axôn*, an axle]: genus of rugose corals, typical of the family *Cyathanonidæ*. It has a styliform columella. Its range is from the Silurian to the Carboniferous period. **CYATHAXONIDÆ**, *sî-a-thăks-ô'nî-dē*, family of rugose corals.

CYATHEA, *sî-ăth'ē-a*, or *sî-ă'the-a*: genus of ferns (q. v.) of the sub-order *Polypodiaceæ*, containing many species, natives of tropical and sub-tropical regions, both of the Old and of the new world. They are tree-ferns, and some have lofty stems and gigantic fronds; they are generally characterized by great gracefulness and beauty. *C. arborea*, sometimes designated the Common Tree-fern, is a native of the W. Indies, Brazil, etc. The fronds are bipinnate, the pinnules deeply pinnatifid. The roots of *C. medullaris*, a species found in New Zealand, contain much starch, and are baked and used as food.

CYATHIFORM, a. *sî-ăth'î-fawrm* [L. *cyăthus*, a cup or small ladle; *forma*, shape]: in *bot.*, cup-shaped. **CYATHOPHILLIDÆ**, *sî-a-tho-fil'li-dē* [Gr. *phullon*, a leaf]: in *geol.*, cup-corals, the largest and most important family of the rugose corals. **CYATHOPHILLINÆ**, *-lî'nē*, sub-family of **CYATHOPHYLLIDÆ**. **CYATHOPHYLLUM**, n. genus of fossil stony cup-corals—the simple turbinated forms being familiarly known by the name of 'petrified rams' horns;' a rugose coral of the palæozoic period. They have a simple or branched polyparium, internally lamellated, the lamella having a quadripartite arrangement. The older portions are cut off by transverse 'tables' or septa, and the base of the stem is often supported by root-like processes. This genus was abundant specially in the Devonian measures, 36 species having been described from them. It made its first appearance in the Silurian seas, and perished at the close of the carboniferous epoch.

CYATHOCRINUS, n. *sî-a-tho-krî'nûs* [L. *cyathus*, cup; Gr. *krinon*, a lily]: type of the family *Cyathocrinidæ*. Its range is from the Silurian to the Permian, especially the Carboniferous and the Permian. **CYATHOCRINIDÆ**, family of *Crinoidea*.

CYB'ELE: see **VESTA**.

CYBIUM, *sîb'î-ûm*: genus of fishes of the family *Scomberidæ* (q. v.), having a long first dorsal, detached finlets, an elongated body, a keeled tail, no pectoral cuirass, and no armature on the lateral line, compressed trenchant teeth in the jaws, and very numerous villiform teeth in other parts of the mouth. A number of species are natives of the seas of the E. Indies, some esteemed for the table; and one species, *C. Commersoni*, is used in a dried as well as in a fresh state; and in a dried state is, to some extent, an article of commerce in India.

CYCADACEÆ, *sî-ka-dă'sē-ē*, or **CYCADEÆ**, *sî-kă'dē-ē*: nat. ord. of exogenous plants, consisting of small trees and

shrubs, somewhat resembling palms in their general appearance, but much more nearly allied to *Coniferæ* (pines, firs, etc.) in their botanical characters; C. being one of the few orders placed by Lindley with *Coniferæ* in his class of *Gymnogens* (q.v.). The stems are generally simple, and either cylindrical or short and spheroidal; sometimes they are branched by successive forkings; they are much marked with scars of leaf-stalks; they consist internally of a mass of pith traversed by woody bundles, and rings of woody matter. The leaves are large and pinnated, and unfold by unrolling, like the fronds of ferns. This curious and beautiful order contains about 50 known species, natives of tropical and sub-tropical countries. None are found in Europe. They all have a mucilaginous nauseous juice, but with this there is often much starch, which, being separated, forms a wholesome food. A kind of sago is made in Japan from the cellular substance which occupies the interior of the stem of *Cycas revoluta*, in the Eastern Peninsula from *C. pectinata*, and in the Moluccas from *C. circinalis*. From these species, which are trees 30-40 ft. high, there exudes a transparent gum, resembling tragacanth in its properties. Their nuts also are eaten, after being fermented and roasted. The large seeds of *Dion edule* afford a kind of Arrow-root in Mexico; and a starchy substance, called sometimes Arrow-root, sometimes Sago, is obtained from *Zamia pumila* and other dwarf species in the W. Indies. Caffer Bread (q.v.) belongs to this order.—Fossil C. are numerous, and occur in some of the colitic and other strata in England.

CYCADACEOUS, a. *sīk'ă-dā'shūs* [L. *cycas*, a kind of palm; *cycādis*, of a palm: Gr. *kukas*, a kind of palm]: pertaining to the natural order of CYCADS, *sī'kădz*, or small palm-like trees, the CYCADACEÆ, *sīk'ă-dā'shī-ē*, from the pith of some of which a kind of sago is obtained. CYCADITES, n. plu. *-dīts*, fossil plants from the oolite and chalk, apparently allied to the existing cycads.

CYCAS, n. *sī'kās*: typical genus of the order *Cycadaceæ* (q.v.).

CYCHLA, *sī'klā*: genus of fishes of the family *Chromidæ* (included by Cuvier in the *Labridæ*, or Wrasse family), of which many species occurs in the rivers of tropical America. They have small and crowded teeth, forming a large band. Some are reckoned among the finest fishes for the table in Brazil and Guiana. They are also remarkable for beauty and brilliancy of color. Some of them are large, and some small. Allied to this genus is *Chromis*, of which one species, *C. Niloticus*, Egyptian *Corycina* of the ancients, inhabits the Nile, and is reckoned the best fish in Egypt. It attains the length of two feet.

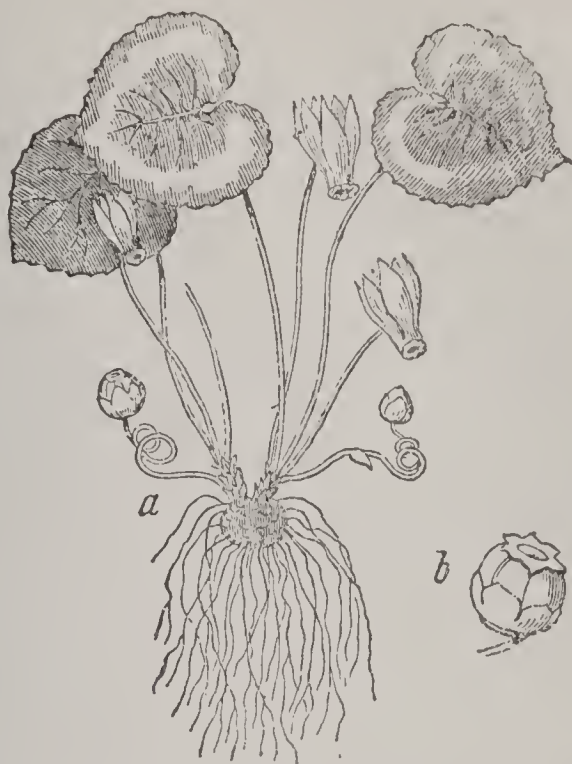
CYCHRUS, n. *sīk'rūs* [Gr. *Kuchreus*, a myth, name]: genus of predatory beetles, family *Carabidæ*.

CYCLADES: see ARCHIPELAGO and GREECE.

CYCLADIDÆ, n. *sī-klād'ī dē* [L. *cyclas*, and suf. *-idæ*]: family of *Conchifera*, section *Siphonida*, and that portion of it in which the pallial line is simple.

CYCLAMEN—CYCLAS.

CYCLAMEN, n. *sĭk'lă-mĕn* [L. *cyclōmīnos*; Gr. *kŭklamīnos*, the plant sow-bread—from Gr. *kuklos*, a circle, referring to the round leaves]: in *bot.*, genus of plants of the nat. ord. *Primulaceæ*, having a wheel-shaped corolla, with a long re-



Cyclamen Europæum:
a, the whole plant; b, the fruit.

flexed limb, and flower-stalks twisted spirally downward after flowering. The species are herbaceous perennials, not numerous, and natives chiefly of the s. of Europe. They have turnip-like, partly subterranean stems, very acrid, nevertheless greedily eaten by swine, and the plants are accordingly often designated **SOW-BREAD**. They are drastic and emmenagogue. A very stimulant ointment is prepared from them, which externally, applied by friction, expels intestinal worms from children. Several of the species are favorites in flower-gardens, producing beautiful and fragrant flowers in early spring.—The active properties of the species of *C.* have recently been found to depend upon a peculiar principle called *Cyclamine*, which produces effects on the animal system similar to those of *Curare* (q.v.).

CYCLANTHÆ, n. *sĭ-klăn'thĕ-ĕ* [mod. L. *cyclanthus*, and suf. *-æ*]: one of the two tribes into which the *Pandanaceæ* are divided. **CYCLANTHUS**, *-thŭs* [Gr. *kuklos*, a circle; *anthos*, a flower, in allusion to the arrangement of the flowers]: typical genus of the tribe *Cyclanthæ*. The species are from tropical America.

CYCLAS, n. *sĭk-las* [L. *cyclas*; Gr. *kuklas*, a woman's dress with a border all round it]: a rich stuff manufactured in the Cyclades; also called *Ciclatun* or *Ciclatoun*; a garment made of this stuff; in *zool.*, genus of mollusks typical of the family *Cycladidæ*.

CYCLE-CYCLING.

CYCLE, n. *sī'kl* [F. *cycle*—from Gr. *kuklos*, a circle, an orb: W. *cylch*, a circle]: a wheel; a round of years, after which the same course begins again; a period; the revolution of a certain period of time which finishes and begins again in a perpetual circle: V. to recur in cycles. CYCLING, imp. *sī'kling*. CYCLED, pp. *sī'kld*. CYCLIC, a. *sī'klīk*, pertaining to a cycle or circle; also CYCLICAL, a. *-klī-kāl*. CYCLAS, n. *-klās*, in *zool.*, a genus of fresh-water bivalves having oval, transverse, equivalved shells. CYCLE OF THE MOON, or *golden number*, a period of 19 years, at the end of which the new and full moons occur again on the same days of the month. CYCLE OF THE SUN, a period of 28 years. CYCLE OF INDICTION, a period of 15 years.

CYCLE, in Chronology: an interval of time in which certain phenomena always recur in the same order. Cycles have arisen chiefly from the periods of revolution of the earth and other celestial bodies not being commensurable. One unit of time is the day of 24 hours, being the period of revolution of the earth round its axis. But neither the year—the period of the earth round the sun—nor the month—the period of the moon round the earth—can be measured by days, or even by hours, so exactly as not to leave fractions. Cycles have been invented to swallow up these fractions of time in whole numbers expressing days, in such a way that after a certain number of revolutions of the body whose period has been put against that of the earth on her axis, the body shall at last occupy the same place in the heavens and calendar as it did when the C. commenced. For the more important of the numerous cycles or periods of this kind that have been invented, see their specific titles: see INDICTION: METONIC CYCLE: PERIOD: GOLDEN NUMBER: ETC.

CYCLING, n. *sīk'ling*: practice or exercise of riding on bicycle or tricycle. Vehicles more or less like the bicycle in outward appearance, but differing totally in mode of propulsion, are described in publications of the latter half of the 17th c., and improvements were made at intervals; but Michaux, wheelwright, of Paris, appears to have been the first to contrive a crank-driven bicycle, 1866: Michaux's bicycle was of wood. Lallement, one of Michaux's workmen, coming to the United States 1867, associated with James Carrol, of Ansonia, Conn., and patented an improved bicycle. Other mechanics having turned their attention to the problem of bicycle construction, many different types of machine were invented and existing types improved, till now perfection of mechanism seems reached. (See BICYCLE.)

In 1893 a firm of Boston bicycle-makers exhibited a special machine whose total weight was only 11 lbs. 11 oz.; the wheels were 27 in. high; the pneumatic tires weighed only 22 oz. the pair. This machine was ridden repeatedly 14 m. over common roads by a rider weighing 175 lbs., and showed no weakness.—The years 1868-70 witnessed the rise and decline of a moderate bicycle furore in the United States; everywhere riding-schools

CYCLOBRANCHIATE—CYCLOID.

sprang up, and the rider on his velocipede, as the wooden machine was first called, was frequent on village streets. But then cycling lost favor, and the bicycle almost disappeared till 1876. In that year two expert bicycle-riders brought over racing bicycles from England and gave public exhibitions of their art and of the capabilities of the machines throughout the country, the example of private citizens, too, served to revive interest in the vehicle; in 1887, a law student in Boston, owner of an improved bicycle of English manufacture, introduced it to the notice of a number of his friends, who imported English-made wheels: that was the beginning of bicycle clubs in this country. Thus a demand for machines sprang up, and the American manufacture of modern bicycles was the result. The first contract for the manufacture of such machines in this country was given to the Weed Sewing Machine Co. of Hartford, Conn., 1888, July: it called for manufacture of 300 machines of the original 'safety' pattern. There are now immense establishments for manufacture of a variety of admirable machines in a number of cities in the west and in the east. The large cities in the United States which afford to cyclists the best opportunities for exercise on 'the wheel,' in the way of fine drives, park roads, and asphalted pavements, are Chicago, Washington, Buffalo, Boston, New York, and St. Louis. Favorite touring districts are the beautiful towns around Boston, the Lancaster Pike from Philadelphia to Reading, the Orange (N. J.) dist., and the Berkshire (Mass.) dist. See BICYCLE: TRICYCLE: WHEELMEN'S ASSOCIATIONS.

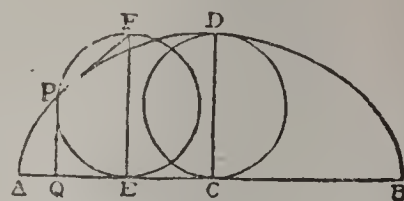
CYCLOBRANCHIATE, a. *sī'klō-brāŋg'kī-āt* [Gr. *kuklos*, a circle; *brangchīā*, gills]: having the gills disposed in a circular manner, as among certain shell-fish, like the limpet. CYCLOBRANCHIA'TA, order of gasteropodous mollusks, in which the gills usually form a series of lamellæ, surrounding the body between the foot and the mantle: to this order belong the univalve *Patellidæ*, or Limpets, and the multivalve *Chitonidæ*, or Chitons.

CYCLOGRAPH, n. *sī'klō-grāf* [Gr. *grapho*, I write]: ingenious and useful instrument, devised 1880, for describing the arcs of very large circles: it consists of two small disks on a spindle, with a pencil affixed for necessary tracings on a paper.

CYCLOID, n. *sī'kloyd* [Gr. *kuklos*, a circle; *eidos*, form]: a geometrical curve traced out by a point in the circumference of a circle rolling upon a straight line, as the path described by a nail in the rim of a railway-carriage wheel running along a straight line. This curve is one of the most interesting known in respect both of its geometrical properties and of its connection with dynamics. One of its most interesting properties is this: The time of a body's descending from rest from any point in the arc of an inverted C. to the lowest point is the same, from whatever point of the curve the body begins to descend: this is sometimes expressed by saying that the C. is the *isochronous* (Gr. equal-time) *curve*. The body having reached the lowest point,

CYCLOLABRIDÆ—CYCLOMETRY.

will, through the impetus received in the fall, ascend the opposite branch of the curve to a height equal to that from which it fell, losing velocity in its ascent by the same degrees as those by which it acquired it in its descent, and it will employ precisely the same time in ascending as it did in descending. It is clear that if a surface could be procured that would be perfectly smooth and hard, the C. would thus present a solution of the perpetual motion. The curve was discovered by Galileo 1615. The line AB, which is called the base of the cycloid, is equal to the circumference of the generating circle; and CD, which is the axis of the cycloid, is equal to the diameter. In any position EPF of the generating circle, AE is equal to the arc EP, AQ, the absciss, = $AE - QE = \text{arc EP} - \text{sine of EP}$; and PQ, the ordinate, = $1 - \text{cosine of EP}$. CYCLOID, a. applied to the scales of certain fishes, which have a circular or elliptical outline with an even margin. CYCLOIDAL, a. -*dāl*, pertaining to. CYCLOIDEANS, n. plu. -*kloy'dī-ānz*, or CYCLOID FISHES, in the system of Agassiz, the fourth order of fishes, having *cycloid* scales—smooth scales formed of concentric layers, not covered with enamel, and not spinous on the margins. Cycloid scales are generally imbricated, but are sometimes placed side by side without overlapping. Very many of the existing fishes are of the cycloid order, e.g. the salmon and herring and fossil C. fishes are numerous in the more recent strata from the chalk upward, but they first appear in the chalk.



The Cycloid.

CYCLOLABRIDÆ, n. *sī-klō-lāb'rī-dē* [Gr. *kuklos*, a circle; L. *labrum*, a lip, and suf. -*idæ*]: family of spine-finned fishes, tribe *Pharyngognathī*. It contains the Wrasses: see WRASSE.

CYCLOLITES, *sī-klō-lī'tēz* [Gr. *kuklos*, a circle; *lithos*, a stone]: genus of *Actinozoa*, family *Frengidæ*. It ranges from the Cretaceous to the Miocene strata.

CYCLOLITH, n. *sī-klō-lith*: a circle of stones such as those at Stonehenge (q.v.): see also STANDING STONES.

CYCLOMETER, n. *sī-klōm'ē-tēr*: instrument for recording the revolutions of a wheel, as of a bicycle; called also *odometer*.

CYCLOMETRY, n. *sī-klōm'ē-trī* [Gr. *kuklos*, a circle; *metron*, a measure]: the art of measuring circles or cycles.

CYCLONE, *n.* *sī'klōn* [Gr. *kuklos*, circle]: extensive storm. The definition may be reduced to this, because all such storms, covering from a few hundred to many hundred miles, have rotating winds, and because the rotation is noticeable only as change of wind to different points of the compass. The term is often popularly applied to tornadoes; but science is now restricting the word Tornado (*q.v.*) to the violent whirls that (in N. Amer.) occur on the s.e. border of cyclones, and are manifested usually by a funnel cloud. The term whirlwind also is now restricted: it is scientifically used for lesser whirls, visible on a small scale in dusty roads, and on a larger scale, sometimes dangerous to life, in dry deserts; these, unlike tornadoes, are not appendages of cyclones, but are referred to eddies between currents of air or to local ascent of hot air taking a rotary motion. Water-spouts are tornadoes, or else violent whirlwinds, at sea; but inland the so-called water-spouts are simply extraordinary falls of rain. Cyclones are accompanied by considerable fall of barometer; tornadoes by little, if any, except that which belongs to the parent cyclone; whirlwinds, unless it be on the largest scale, by none. Cyclones, or storms proper, come on with warm, moist air, and more or less rain, extending from the centre of disturbance for some hundreds of miles forward in the direction in which the storm is advancing: in N. Amer., the n.e. quadrant of the great circuit of the storm is humid, with high winds and heavy clouds; the s.e. quadrant has the most heat and moisture, hence possibilities of unusual disturbance—the tornadoes, however, often occurring together with thunder-storms, after a clear, oppressive day, outside of the rainy district; the s.w. quadrant of the C. shows clearing weather and cooler; the n.w., brisk, clearing, cold winds. The C. may be a great circle—but usually an ellipse, more or less irregular, the longest axis in the direction of progress. Every area of low barometer may be regarded as a germ of C., which may or may not be developed into a C. proper. The area of high barometer preceding or following, with 'settled' weather, is termed an anti-cyclone: and the idea has been entertained that this, with its denser, calmer air, has power sometimes to retard or arrest a C., as during the week of 'blizzard' in N. Y. 1888—also that the anti-cyclones are likely to plant themselves off the Atlantic coast, prolonging many storms; but this needs discussion. In the n. hemisphere, and explained by the effect of the rotation of the earth, the great circuit of cyclonic wind moves from right to left—opposite to the motion of the hands of a watch. In the s. hemisphere, it is from left to right. In the centre of disturbance there is a calm. Let any one put his pencil-point anywhere on the face of a watch, outside of the centre, and he can readily decide the direction of the wind as represented at the point touched: and hence, for example, in the n. hemisphere, if at the beginning of a storm the



Cyclamen persicum.



Cyclopterus lumpus (Lump-sucker).



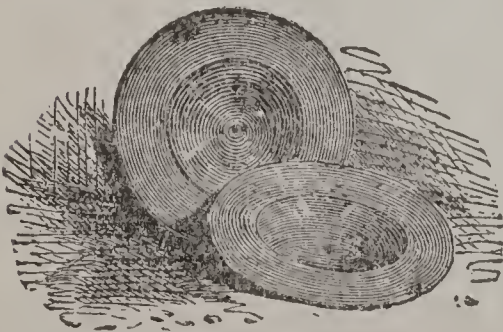
1, Cyclopean Walls at Paleokastron, Greece; 2, Porta Saracenica at Signia, Italy.



Cycolith.



Cynomorium coccineum, growing upon the roots of (a) its phanerogamous host; b, c, d, Different stages of development.



Cymbals.



Cygnet-royal.

wind is s.e., he can know in a general way that the centre of the storm will pass s. of him; if s.w., n. of him. A simpler rule is—with one's back to the wind, the centre is to the left. Local deflections, as in valleys, would need to be remembered, however; and there is a lack, at some points, of perfect accordance with theory, as shown by the arrows on signal-office daily charts. Moreover, the wind, even if the storm be circular, does not move in a circle strictly, but inclines somewhat toward the centre of the storm, spirally. The rate of the wind, outside of the central calm, may reach 40 m. an hour, when it is called a gale, or 60 m., when it is an exceptionally heavy storm: in the tropics, it is reported as sometimes 150 m., in a severe hurricane; and such tropical severity of cyclonic wind defines the word hurricane. The pressure of the wind at 40 m. is estimated at 8 lbs. the sq. ft.; at 60 m., 18 lbs.; at 80 m., 32 lbs.; at 100 m., 50 lbs. The force of the wind is proportioned to the greater or less difference of barometer in the inner and outer portions of the storm area. The progressive motion of cyclones is 2 to 40 m. per hour, most rapid in the tropics. They may change their course, increase or diminish: and if the area of low barometer contracts, it is a sign that the storm is declining; but an expansion, with rising barometer, is also a decline. If the temperature begins to rise soon and markedly after the storm has passed, a second storm may be expected shortly. The rainfall is generally proportioned to the suddenness and extent of the barometric depression at the place where it falls. In the West Indies region, where the Atlantic-coast cyclones originate, the beginning is narrow and violent; and the storm expands and diminishes as it moves northward, unless re-enforced by peculiar atmospheric conditions or by junction with other storms. Cyclones enter the interior of the United States from the Gulf of Mexico, or the Oregon and Washington coast, and from n. of Dakota. Reaching the interior, they usually move n.e., and, like those of the Atlantic coast, pass off to sea from the New England coast or the Gulf of St. Lawrence. It is a great neglect on the part of newspapers, which are unstinted in expense for trivial news, that they do not give weather reports at points reaching to the Rocky Mts. and to the Gulf; as it is, one cannot judge of coming weather except for the day, or for one day ahead. Light, feathery clouds at great height (cirrus), gradually rising temperature, and southerly or easterly winds, are usual precursors of cyclones; but the conditions may not ripen into development. Many of our storms cross the Atlantic and strike the coast of Europe. Those of Europe follow the same general n.e. course—except those in the Mediterranean region, which incline toward the s., seemingly as a result of a wide inrush toward the rising hot air of Sahara. Except in the case of eddying whirls between two currents of wind, the general cause of cyclones, tornadoes,

CYCLONE.

and whirlwinds is the heating of air near the surface of the earth, the lighter hot strata at length breaking upward through the higher, colder, denser. Where the break occurs, the uprush assumes a rotary motion, as in the case even of a slender string of water from the spout above a watering-trough: the slightest retarding or disturbing influence on any side will compel a fluid to revolve, if it be not in a fixed bed or conductor. The uprush of air produces an inrush from all sides, which participates in the spiral upward movement; and it is the spreading out of the risen warm air, containing moisture condensed in the high cold region, which produces the precursor cirrus clouds, as, on a less scale, the upper advanced sheet of cloud above a thunder-storm or tornado. The cause of all storms, with its more limited action, is essentially the same as that which produces a world-wide continuous circulation of upper and under currents between the hot tropics and the cold arctics (in low latitudes forming regular trade-winds)—the hot air rising and flowing off, while the cold air moves in the reverse direction, to take its place.

The theory of storms has been gradually developed in scientific papers, and the theories of Espy, Redfield, Reid, Dove, etc., are superseded. Of the different theories hitherto proposed, we need refer only to the rotatory and the centripetal theories. The rotatory, commonly called the cyclonic theory, was proposed by Piddington, and has since been elaborated by Redfield, Reid, Dove, and others. By this theory, storms are considered as revolving round an axis either upright or inclined to the horizon, while the body of the storm has a progressive motion over the surface of the globe; the barometric depression, as caused by the centrifugal force, driving the air from the centre to the circumference of the storm. Dove, certainly the ablest advocate of this theory, holds that cyclones are formed when two atmospheric currents, the equatorial and polar, flow side by side, they being, as it were, the eddies formed at the line of junction. To this theory, several objections may be urged. Observations from the numerous observatories recently established in Europe and America in no case exhibit a true cyclonic movement of the winds round the centre of the storm—that is, they do not rotate in circles returning on themselves, even when the barometric depression is deepening and the storm expanding, but invariably exhibit, with the rotatory motion, a constant tendency to blow in upon the centre of the lowest pressure. Hence it is clear that the barometric depression is not caused by the centrifugal force of the storm. The same may be shown from theory; for, though the wind were to blow round a circle 400 m. in diameter at the rate of 70 m. an hour, the centrifugal force would depress the barometer at the centre only $\frac{1}{200}$ in., whereas half an inch or even a whole inch of depression often occurs. Again, if cyclones arose from the flowing of the polar and equatorial currents side by side, the rotatory motion would not

CYCLONE.

always be in one direction, but would be determined by the relative position and strength of the two currents. All the facts of the rotation of the wind are explained when it is considered as caused by air-currents flowing toward a low barometer along the globular surface of the earth rotating eastward.

The rotatory character of storms has been denied by Espy, who maintains that the wind blows from every quarter toward the centre of the storm, and that the central depression is caused by the development of heat which occurs whenever the vapor of the atmosphere is condensed into cloud or rain; the heat thus developed rarefying the surrounding air, and causing an upward current. The most valuable part of this theory lies in directing the attention of meteorologists to the heat of condensation, which must act an important part in the movements of the atmosphere. It is, however, insufficient, since it leaves some important points unexplained. Thus, more heat being set free when vapor is converted into snow than rain, a greater depression ought to follow a fall of snow than of rain, which is not found to be the case; it leaves unexplained also the appearance of high pressures, sometimes suddenly appearing on the scene, and seeming to divert the storm from its course, or to drive it before them. But the weak point of this theory is the centripetal direction of the winds. Espy worked from imperfect data, and, never being able to lay down the iso-barometric lines, he could only guess at the true centre of the storm; further, he was misled by a peculiar characteristic of American storms, which being generally in the form of rather elongated ellipses moving *eastward*, many of the winds blow directly to the centre, or nearly so.—See METEOROLOGY: HURRICANE: TYPHOON; WHIRLWIND: *See* *same*.

CYCLOPEAN ARCHITECTURE—CYCLOPHORUS.

CYCLOPEAN ARCHITECTURE, or **CYCLOPEAN MASONRY**: denoting a construction or a wall of large, irregular stones, unhewn and uncemented. The term originated in Greece, where structures of this kind were fabled to have been the work of the Cyclopes, or one-eyed giants. The walls of Tiryns, near Nauplia—alluded to by Homer—are an example of the ruder style of Cyclopean masonry. They are of irregular unshapen stones, from 6 to 9 ft. long, from 3 to 4 ft. wide, and from 2 to 3 ft. thick; the interstices are filled up by small stones, but no mortar is used. The walls of Mycenæ and of Epirus are examples of more advanced C. A.: here, the blocks, though irregular in size and shape, are fitted carefully to each other, showing close joints and a smooth surface. These structures are now commonly believed to have been reared by the Pelasgians (q.v.), probably more than a thousand years before the Christian era. They are found in Greece, Italy, and Asia Minor.

The next stage of Cyclopean masonry shows an approach to horizontal courses, as in the walls of several towns in Greece, and of some in Etruria. Lastly, the name of Cyclopean work is applied, perhaps not quite accurately, to a kind of masonry which obtained among the Etruscans (q.v.), where the blocks are both squared and laid in horizontal courses, but are not cemented. In some cases—as in the walls of Cosa, in Tuscany, believed to have been first a Pelasgian, then an Etruscan, city—the lower part is of irregular polygonal blocks, the upper part of squared stones in horizontal courses. In at least one instance—a wall in the Peloponnesus—a foundation of excellent ashlar is surmounted by irregular polygonal blocks of the usual Cyclopean type.

Masonry partaking more or less of the Cyclopean character is seen in Persepolis, and elsewhere in Asia, in several parts of w. Europe, and in some parts of America. The walls of Cuzco, and the ruins of what is called the house of Manco Capac, on an island in the lake of Titicaca, in Peru, are interesting examples of the C. A. of the New World. Instances of Cyclopean work on a smaller scale are found in the British Islands, in the walls of the primitive ‘duns’ or hill-forts, or in the ‘cashels’ or precincts of early religious houses. Among Irish examples are the Grianan of Ailech, the Giant’s Sconce, near Coleraine, and the Rock of Cashel. Among Scotch instances are the ruins on St. Columkille’s Island, near Migsted, in Skye. In the Bibliothèque Mazarine, at Paris, is an interesting set of models of the Cyclopean buildings of Greece and Italy, by M. Petit-Radel, author of *Recherches sur les Monumens Cyclopiens*.

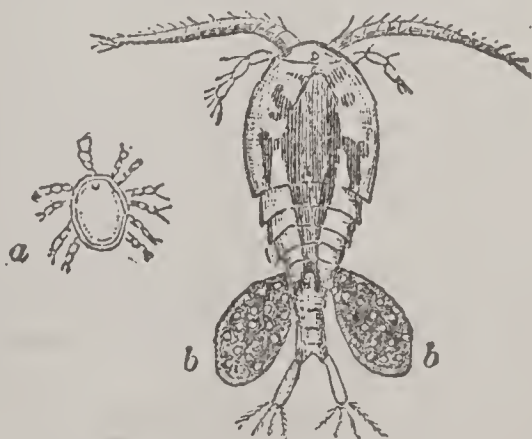
CYCLOPEDIA, or **CYCLOPÆDIA**, n. *sī’klō-pē’dī-ă* [Gr. *kuklos*, a circle; *paideia*, learning, instruction]: book or series of volumes of universal knowledge; a book containing treatises on every branch of knowledge, arranged in alphabetical order: see **ENCYCLOPEDIA**.—**CYCLOPÉDIC**, a. *sī’klō-pē’dīk*, of or pertaining to a cyclopedia.

CYCLOPHORUS, n. *sī-klōf’ér-ŭs* [Gr. *kuklos*, a circle;

CYCLOPS.

phoros, bearing]: genus of gasteropodous mollusks, family *Cyclostomidae* (q. v.).

CYCLOPS, n. sing. or plu. *sī'klōps*, also CYCLOPES, n. plu. *sī-klō'pēz* [Gr. *kuklōps*, or *kuklōpa*; L. *cyclops*, or *cyclōpem*—from Gr. *kuklos*, a circle; *ops*, the eye]: in *Greek myth.*, giants, described as huge misshapen monsters, having but one eye, and that in the middle of the forehead. They were of three kinds. 1. The Homeric C., a wild, lawless, gigantic race inhabiting the sea coasts of Sicily, most prominent of whom is Polyphemus (q. v.). Although Homer does not directly call them one-eyed, yet he expressly terms Polyphemus such, and the later poets attribute his peculiarity to the rest. 2. The three C. mentioned by Hesiod—Brontes, Stereopes, and Arges—each having one eye in the middle of his forehead; these were sons of Uranus and Gæa, belonged to the race of Titans, and forged thunderbolts for Zeus. Hurlled into Tartarus by their father, but delivered by their mother, they helped Kronos to usurp the government of heaven. Kronos, however, in his turn, threw them back to Tartarus, from which they were again released by Zeus, whose servants they now became. Finally, they were slain by Apollo, because they forged the thunderbolt with which Zeus killed Asclepius. Later tradition placed their workshop in Mount Etna, or in the volcanoes of Lemnos and Lipari, and made them the slaves of Hephæstus. 3. The C. mentioned by Strabo, as a people who had come from Thrace or Lycia to Argolis, and were distinguished for their skill as builders. Their constructions are known as the Cyclopean walls, and many of them still exist in parts of Greece and Italy. The statement of Strabo is quite untrustworthy. More probably the so-called Cyclopean walls were built by some ancient race, perhaps the Pelasgians (q. v.), at a period long before the historical civilizations of Greece and Rome. CY'CLO-PE'AN, a. *-klō-pē'ăn*, pertaining to the Cyclops; vast; terrific; applied to those vast remains of anc. architecture which consist of large unhewn masses of stone fitted together without mortar. CYCLOP'IC, a. *-klōp'ik*, pertaining to the Cyclops; savage; gigantic.



Cyclops Vulgaris:

a, young; *b*, *b*, egg-bags.

CY'CLOPS: genus of minute entomostracous crusta-

ceans of the order *Branchiopoda* (q.v.), having a soft and rather gelatinous body divided into two portions, one consisting of the head and thorax, the other forming the tail. There is only one eye, situated in the middle of the forehead, and generally of a bright crimson color, sparkling like a gem when the animal is viewed through a microscope. The species of *C.* are numerous; they inhabit both the sea and fresh waters, generally residing among or upon aquatic plants. They are extremely active, and dart about with great rapidity.

CYCLOPTERIS, n. *sī-klōp'tēr-īs* [Gr. *kuklos*, a circle; *pteris*, a fern]: in *geol.*, a genus of palæozoic ferns having their leaflets of a round shape.

CYCLOP'TERUS: see LUMPSUCKER: SUCKING FISH.

CYCLORAMA, *sī-klō-rā'mā*: series of views, which, being wound round cylinders, are unrolled to pass in consecutive order before the spectator, so as to produce the effect of motion on his part, as when the banks of a river are seen from a steam-boat, or the country from a railway.

CYCLOSIS, n. *sī-klō'sīs* [Gr. *kuklōsis*, a surrounding, a circulation—from *kuklos*, a circle]: name designating certain still very imperfectly understood movements of the contents of cells in plants—formerly supposed to be a partial circulation of the juices. As they have been observed in plants of the most different natural orders, it is presumed that they prevail throughout the vegetable kingdom.

CYCLOSTOMIDÆ, n. *sī-klōs-tōm'ī-dē* [Gr. *kuklos*, a circle; *stoma*, a mouth]: family of gasteropodous mollusks, ord. *Pulmonifera*, section *Operculata*. **CYCLOSTO'MA**, n. *-tō'ma*, typical genus of the *Cyclostomidæ*.

CYCLOSTOMOUS, a. *sī-klōs'tō-mūs* [Gr. *kuklos*, a circle; *stoma*, a mouth]: having a circular mouth or aperture for sucking, among certain fishes, as the lamprey. **CYCLOSTOME**, n. *sīk'lōs-tōm*, a fish with a mouth formed for sucking. **CYCLOSTOMI**, n. plu. *sī-klōs'tō-mī*, also **CYCLOSTOMATA**, a division of the vertebrates, including the hag fishes and lampreys: see LAMPREY: CARTILAGINOUS FISHES: ZOOLOGY (Table).

CYCLOTELLA, n. *sī-klo-tē'lla* [Gr. *kuklos*, a circle; L. dim. suf. *-ella*]: genus of *Diatomaceæ*, in which the valves are circular, flat, depressed, or undulated, striated and marked with dots or depressions arranged in radiating rows.

CYCLOTUS, n. *sī-klō'tūs* [Gr. *kuklos*, a circle; *ous*, gen. *ōtos*, the ear]: sub-genus of *Cyclophorus* (q.v.). There are 44 known recent species, from tropical America, s. Asia, etc.

CYDER, n. *sī'dér*: for CIDER, which see.

CYD'NUS: river in Cilicia: see TARSUS.

CYDO'NIA: see QUINCE.

CYESIOLOGY, n. *sī-ēz-ī-ōl'o-jī* [Gr. *kuēsis*, conception,

CYGNET—CYMA.

pregnancy; *logos*, a discourse]: the science which concerns itself with gestation.

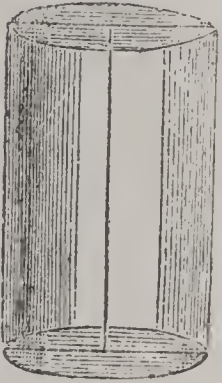
CYGNET, n. *sĭg'nĕt* [OF. *cigne*, a swan—from L. *cygnus*; Gr. *kuknos*, a swan]: a young swan. CYGNET-ROYAL, in heraldry, a swan gorged with a ducal coronet, having a chain thereunto affixed, and reflexed over its back.

CYGNUS: see SWAN.

CYGNUS: constellation in the n. hemisphere, between Lyra and Cassiopeia: see STARS.

CYLICHNA, n. *sĭ-lĭk'na* [Gr. *kulichnē*, a small cup, a dish for food]: genus of gasteropodous mollusks, family *Bullidae*: see BULLA.

CYLINDER, n. *sĭl'in-dĕr* [F. *cylindre*—from L. *cylindrus*; Gr. *kul'indros*, a roller]: a roller; a long rounded body of uniform diameter. Cylinder, in *geom.*, denotes a genus of solid figures, of which there may be endless species. The most common kind of C. is that generated by the revolution of a rectangular parallelogram about one of its sides, which line is called the axis of the cylinder. But in order to embrace all varieties of cylinders, we must



Right Circular
Cylinder.

generalize the mode of generation. A C., then, is a solid generated by a line which moves parallel to itself while one end traces upon a plane any curve whatever. When the position of the generating line is at right angles to the plane, the C. is *right*; when not, it is *oblique*. If the curve traced is a circle, and the line perpendicular to the plane, the C. is a *right circular C.*, etc. In all cases, the content of the C. is found by multiplying the number of square units in the base by the number of linear units in the altitude, which is the perpendicular distance between the two ends. The area of the convex surface is equal to a rectangular

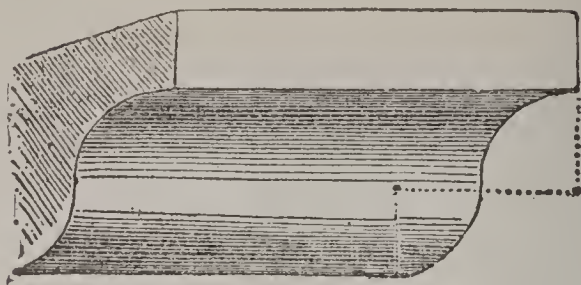
parallelogram whose base is the circumference of the end, and its height the length of the generating line. To this must be added the areas of the two ends, to get the whole surface of the cylinder. CYLINDRIC, a. *sĭ-lĭn'drĭk*, or CYLIN'DRICAL, a. *-drĭ-kāl*, pertaining to; having the form of a cylinder. CYLIN'DRICULE, n. *-kūl*, a small cylinder. CYLIN'DRICALLY, ad. *-kāl-lĭ*. CYLINDRICITY, n. *sĭl'in-drĭs'ĭ-tĭ*. CYLINDRIFORM, a. *sĭ-lĭn'drĭ-fawrm* [L. *forma*, shape]. in the form of a cylinder. CYLINDROID, n. *sĭl'in-droyd* [Gr. *eidos*, resemblance]: a cylinder having its ends elliptical. CYLINDRENCHYMA, n. *sĭl'in-drĕng'kĭ-mă* [Gr. *engchuma*, juice, the substance of organs—from *engchūō*, I infuse]: in *bot.*, plant tissue made up of cylindrical cells.

CYLINDRELLA, n. *sĭl'in-drĕl'la* [dim. of L. *cylindrus*, cylinder]: genus of pulmoniferous gasteropods, called in English Cylinder Snails.

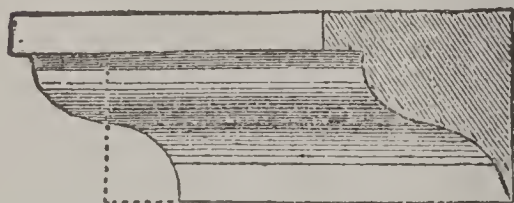
CYMA, n. *sĭ'mă*, or CYME, n. *sĭm* [Gr. *kuma*, a wave] in *arch.*, a molding whose contour resembles that of a wave, being a hollow and a round conjoined; an ogee:

CYMAPHEN—CYMBELLA.

when hollow in the upper part, it is termed *C. recta*; when



Cyma Recta.



Cyma Reversa.

hollow in the lower part, *C. reversa*. **CY'MOID**, *n.* -*moyà* [Gr. *eidos*, resemblance]: formed like a cyma.

CYMAPHEN, *n.* *sī'ma-fēn* [Gr. *kuma*, a wave; *phainō*, I show]: an apparatus in a telephone for receiving transmitted electric waves.

CYMAR, *n.* *sī-mār* [F. *simmake*, a gown—from It. *zimarra*]: a slight covering; a scarf; also **ŠIMAR**.

CYMA'TIUM: see **ENTABLATURE**.

CYMBA, *n.* *šim'ba* [L. *cymba*; Gr. *kumbē*, a boat, a skiff]: boat-shell, a genus of gasteropodous mollusks, family *Volutidæ*.

CYMBAL, *n.* *šim'bāl* [OF. *cimbale*; F. *cymbale*—from L. *cymbālum*; Gr. *kumbālon*, a cymbal—from Gr. *kumbos*, a cavity: It. *cimbalo*]: musical instrument of percussion, of brass in a circular form like a dish, struck together in pairs when used, and producing a loud, harsh clanging sound. The best are those made in Turkey and in China. Attempts to discover and imitate the composition of the metal have all failed. The notes in music for this instrument are all placed on the same line or space, in rhythmical succession. Cymbals are military instruments, but are now much used in the orchestra.

CYM'BEL: organ stop of the mixture species, consisting of three ranks of pipes. Also a stop found in very old continental organs, consisting of a machine like a star placed high up on the front of the organ, on which were hung small bells, which sounded when the star was moved round on its centre by a current of air from the organ.

CYMBELLA, *n.* *šim-bel'la* [dim. of L. *cymbalum*, a cymbal]: a reproductive locomotive body of an elliptical shape, found in some *Algæ*; a genus of *Diatomaceæ* (q.v.), typical of the sub-order *Cymbelleæ*, so called from its cymbiform valves. **CYMBEL'LEÆ**, sub-order of *Algæ*, order *Diatomaceæ*. The individuals are quite free.

CYMBIFORM—CYNANCHE.

CYMBIFORM, a. *sīm'bī-fawrm* [L. *cymba*, a boat; *forma*, shape]: boat-shaped.

CYME, n. *sīm* [L. *cyma*; Gr. *kuma*, the young sprout of a cabbage]: in *bot.*, a common form of centrifugal (q.v.) inflorescence, in which the rachis or floral axis disappears by separating into irregular branches, and these are short and



Example of a Cyme.

corymbose. It is of very general occurrence in the *Caryophyllaceæ*. Examples may be seen also in the common elder, different species of *Viburnum*, etc. The *verticillasters* of the *Labitæ* are small cymes in the axils of opposite leaves, assuming nearly the appearance of whorls. **CYMOID**, a. *sī'moyd* [Gr. *eidos*, resemblance]: having the form of a cyme. **CYMOSE**, a. *-mōz*, flowering in cymes. **CYMULE**, n. *sīm'ūl*, in *bot.*, a diminutive cyme; a branch or cluster of compound cymes.

CYMENE, n. *sī-mē'ně* [from *cumin*, as if *cymīnos*]: an organic compound of the aromatic series found in cumin-oil; a hydrocarbon obtained from camphor—also **CYMOL**, n. *sī'mōl* [*cumin*, and L. *olĕum*, oil]: another name for *cymene*.

CYMOPHANE, n. *sī-mō-fān* [Gr. *kuma*, a wave; *phaino*, I appear]: a semi-transparent variety of chrysoberyl. **CYMOPHANOUS**, a. *sī-mōf'ā-nūs*, having a wavy floating light.

CYMRY, n. *kīm'rī*: the Welsh, etc. **CYM'RIC**, a. n. *-rīk*, one division of the Celtic family of languages comprising Welsh, Manx, and Cornish, as distinguished from Gaelic, which comprises the Scotch Gaelic and anc. Irish or Erse: see **CELTIC NATIONS**.

CYNANCHE, n. *sī-năn'kě* [Gr. *kŭōn*, a dog; *angcho*, I strangle]: disease of the windpipe attended with inflammation—so named from the dog-like bark by which it is sometimes accompanied; general term for severer forms of sore throat: see **THROAT, AFFECTIONS OF THE**.

CYNANCHUM—CYNOMORIUM.

CYNANCHUM, *sī-nān'kum* or *sī-nīng'kum*: genus of plants of the nat. ord. *Asclepiadaceæ*, having a wheel-shaped corolla, and a lobed or cleft corona. *C. Monspeliacum*—a herbaceous twining plant, with roundish, heart-shaped, stalked leaves, native of the shores of the Mediterranean—yields the drug called *Montpellier Scammony*, a violent purgative, not much used. *C. ovalifolium* is a native of Penang, and its sap yields caoutchouc of excellent quality.

CYNANTHROPY, n. *sīn-ān'throp-ī* [Gr. *kūōn*, a dog; *anthrōpos*, a man]: a kind of madness in which a man imagines himself a dog, and imitates its bark and habits.

CYNARA, n. *sīn'a-ra* [L. *cīnara*; Gr. *kinara*, an artichoke: comp. also Gr. *kunara*, the artichoke, or possibly the dog-rose]: genus of composite plants, typical of the tribe *Cynarææ*. See **ARTICHOKE**.

CYNAROCEPH'ALÆ: see **COMPOSITÆ**.

CYNARRHODON, n. *sīn-ār'rō-dōn* [Gr. *kūōn*, a dog; *rhodon*, a rose]: applied to the hips or fruit of dog roses, and roses in general.

CYNIC, n. *sīn'ik* [L. *cynīcus*, a cynic—from Gr. *kūnīkos*, dog-like—from *kūōn*, a dog]: a surly or snarling man; a misanthrope; one of the cynics. **CYN'ICS**, n. plu. an anc. sect of philosophers distinguished mainly for their morose and snarling ethics: they contemned riches, the arts, the sciences, and usages of society; for their opinions, see **ANTISTHENES**: **DIODEGENES**: **MENIPPUS**: etc.: hence, generally, rude or censorious men. **CYN'IC**, a. or **CYN'ICAL**, a. *-ī-kāl*, snarling; having the qualities of a surly dog; scornful; assuming to be universal critics, but with capacity only for fault-finding. **CYN'ICALLY**, ad. *-lī*. **CYN'ICALNESS**, n. **CYN'ICISM**, n. *-sīzīm*. austerity; churlishness.

CYNICTIS, n. *sīn-ik'tīs* [Gr. *kūōn*, a dog; *iktis*, a kind of weasel or ferret]: genus of mammals whose proper place is perhaps among the *Viverridæ* (Civets), though it has affinities also to dogs and hyenas, in the family *Canidæ*.

CY'NIPS: see **GALL-FLY**.

CYNOCEPHALUS, n. *sī'nō-sēf'ā-lūs* [L.—from Gr. *kuno-keph'ālos*, a dog's head—from *kūōn*, a dog; *kephālē*, a head]: an ape with a dog's head: see **BABOON**.

CYNODON, *sīn'o-dōn*: genus of grasses, having digitate or racemose spikes, with spikelets on one side, glumes nearly equal, boat-shaped, and containing one floret, which has two awnless paleæ, the fruit coated with the hardened paleæ. The most important species is *C. dactylon*, a grass very widely diffused, being the principal fodder grass and best pasture grass of India, where it is the principal covering of many thousands of sq. m., and is known by the names of *Dhōb*, *Doorba*, etc.; common also in the south of Europe. Its creeping roots, and those of its congener, *C. lineare*, have medicinal virtues, and are sometimes used as a substitute for sarsaparilla.

CYNOMORIUM, *sī-nō-mō'rī-ūm*: genus of plants of the curious parasitic nat. ord. *Rhizanthææ* (q.v.). *C. coccineum*, plant of a strange fungus-like appearance, is found in the

CYNOSURE—CYPERACEÆ.

islands of Malta and Gozo, most abundantly on a particular rock in Gozo. It was long known as *Fungus Melitensis*, and had the highest reputation as a styptic, besides being used as an astringent in dysentery and other maladies. So high a value was set upon this plant, that the knights of Malta took it under their particular care as one of their choicest possessions; it was carefully gathered, and deposited in a government office, from which the grand-master sent it to friendly sovereigns, and to the hospitals of the island. A keeper of the rock which produces the plant is still appointed, and his salary appears in the public accounts of Malta.

CYNOSURE, n. *sī'nō-zhûr* [L. *cynösūră*—from Gr. *kunosoura*, a dog's tail—from Gr. *kūōn*, a dog, *kūnōs*, of a dog; *oura*, a tail]: the north star or pole-star, being the bright star of the constellation Little Bear, by which seamen used anciently to steer, and to which, therefore, they directed their looks: or, as some suppose (less probably), C. refers to the constellation *Ursa Minor*, which holds its place always near the pole, and toward which therefore all the other constellations as they wheel round it may be said to gaze. Milton's lines suit either view:

Where perhaps some beauty lies,
The Cynosure of neighboring eyes.—*Allegro*.

Hence, generally, any bright or beautiful object drawing general attention.

CYNOSU'RUS: see DOG'S-TAIL GRASS.

CYNTHIA, n. *sīn'thĭ-ă* [*Cynthus*, the mountain in Delos where Apollo and Diana were born]: in *Latin myth.*, Diana; the moon represented by Diana.

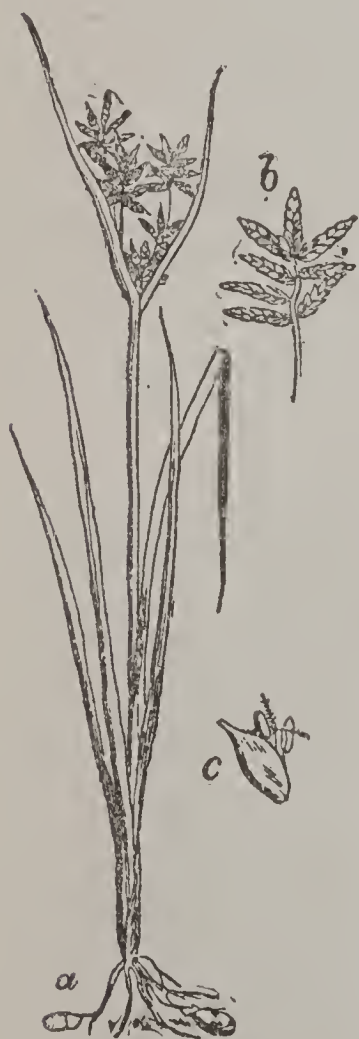
CYNTHIANA, *sīn-thē-ă'na*: city, cap. Harrison co., Ky., 33 m. n.n.e. of Lexington, 66 m. s. of Cincinnati, on the s. fork of the Licking river, and on the Ky. Central railroad. It was settled 1780; has six churches, court-house, graded free school, college for girls, national bank, two flour-mills, two carriage-factories, and a cigar-factory; and is noted for its manufactures of Bourbon whisky, and for its formerly celebrated race-course. During the civil war, it was attacked and captured by the Confederates twice and the Union forces once. Pop. (1900) 3,257.

CYPERACEÆ, *sī-per-ă'sē-ē*, or CARICINEAE, sometimes popularly called SEDGES: nat. ord. of plants, akin to grasses, but having generally a triangular stem without joints, or almost so, and often leafless. The leaves are sometimes sheathing, but their sheaths are always entire, not split as in the grasses. The flowers, hermaphrodite in some, unisexual in others, consist of a scale-like *glume*, under which lie the organs of fructification, the pistils alone being frequently inclosed in a separate urn-shaped covering; the place of the perianth is sometimes supplied by a few bristles. The stamens are 1-12 in number, the anthers erect: the ovary is one-seeded, the style single, *trifid* or *bifid*; the fruit a small crustaceous or bony nut, the embryo lenticular, and inclosed within the base of the al-

CYPERACEOUS—CYPERUS.

bumen. Plants of this order, which contains fully 2,000 known species, occur in all zones; some of the genera, as *Carex* (q.v.), abounding in the colder, some, as *Cyperus* (q.v.), in the warmer parts of the world. See also SCIRPUS. Many are plants of very humble growth, some, as bulrushes, papyrus, etc., comparatively large; none rival in size the bamboos and other gigantic grasses. Most of them grow in marshy and moist places, but a few in sunny dry places. Their stems and leaves are in general very deficient in succulence, and, in most of them, also very rough, so that they are eaten by domesticated cattle only when in a very young state, and rather from necessity than from choice, and are regarded by farmers as mere weeds. For some uses of plants of this order, see BULRUSH: COTTON-GRASS: PAPYRUS.

CYPERACEOUS, a. *sī'pēr-ā'shūs* [Gr. *kupei'ros*, a kind of rush]: belonging to the nat. ord. of plants, the sedges, consisting of grass-like herbs growing in tufts—called the CYPERACEÆ, *-sē-ē*. CYPERITES, n. plu. *-pēr-īts*, in *geol.*, long narrow ensiform leaves occurring in the coal-measures.



Cyperus Esculentus:
a, whole plant; b, cluster
of spikelets; c, a single
flower.

CYPERUS, *sī'pēr-ūs* or *sī-pē'rūs*, genus of plants of the nat. ord. *Cyperaceæ*, distinguished by hermaphrodite flowers and compound spikelets of numerous two-rowed glumes including no bristles or scales. It contains a great number of species, chiefly tropical, and gradually decreasing in number toward the colder parts of the globe. Many of the species have tubers or corms, which in some are mucilaginous and nutritious; in others, contain also a bitter principle, and possess medicinal qualities. Of the latter class is *C. longus*, or Sweet C., common in ditches and wet meadows in some parts of Europe, the rhizome of which has an odor of violets, and is astringent, tonic, and stomachic. It has been employed in medicine from very ancient times; but is now used more in perfumery. Some of the Indian species are also used medicinally and in perfumery in their native country, as well as species of kindred genera. Of those with esculent tubers, the most important is *C. esculentus*, sometimes called Rushnut, native of the s. of Europe and n. of Africa, cultivated to a considerable extent in Egypt, Italy, Spain, Portugal, and the s. of France.

CYPHER—CYPRESS.

The root of this plant throws out creeping branches at the end of which form farinaceous tubers of the size of a hazel-nut, called Earth Almonds (*Amande de Terre*) by the French. They have a sweetish taste, and are used like almonds for the dessert, also for making *Orgeat* (q.v.). They are said to possess not only nutritive, but restorative and stimulant, properties. Of late, they have become a considerable article of commerce, on account of the bland fixed oil which they yield, and are exported chiefly from Spain and Portugal to Holland. They contain about 16 per cent. of oil. The roots of this plant and its allies are the only roots known to contain much oil. The tubers of *C. bulbosus* or *Jemenicus* are eaten in India, either roasted or boiled, or are dried in the sun and made into bread; but their small size makes them troublesome of collection and preparation. Those of *C. geminatus* also are eaten. The tubers of some species of *Scirpus* (q.v.) resemble in quality those of the esculent species of *cyperus*. The fibre of *C. textilis* is so strong that it is used in India for making mats.

CYPHER, n. *sī'fēr*: another spelling of CIPHER, which see.

CYPHONISM, n. *sī'fon-izm* [Gr. *kuphōnismos*, punishment in the pillory; *kuphōn*, a pillory]: aneient mode of punishment or torture inflicted on criminals. It consisted in rubbing the offender with honey, and afterward exposing him in a cage, or fastening him to a stake to be a prey to swarms of insects.

CYPRÆA: see COWRY.

CYPRÆIDÆ, n. plu. *sī-prē'i-dē* [L. *Cyprīa*, a name of Venus—from the island Cyprus]: the cowry family; the shells of carnivorous gasteropods chiefly inhabiting the shores of warm seas, a small species of which is used extensively as money in Asia and Africa.

CY PRÈS, *sī pres* or *sē prā*: a doctrine in English Law, concerning estates left by will. As the law forbids the giving of an estate tail to the son of an unborn son of a living person, after a life-estate given to such unborn son, and would regard such estate tail as void, the courts, when such a gift is made in a will, apply the doctrine of C. P., and endeavor, *as near as possible*, to carry out the testator's wish, by giving to the unborn son of the living person an estate tail, instead of for life, and so enabling his son to succeed if the entail be not barred: see ENTAIL. So also, when a charity cannot reasonably be administered precisely as directed by the testator, the court will, by the doctrine of C. P., administer it as near as possible to his directions.

CYPRESS, n. *sī'prēs* [OF. *crespe*, a cyprus or thin material for a woman's neck]: in *OE.*, a thin, light, deep black fabric. CYPRESS-LAWN, crape: see SKEAT.

CYPRESS, n. *sī'prēs* [OF. *cypres*—from L. *cyparissus*, and *cupressus*, the cyprus], (*Cupressus*): genus of plants of the order *Coniferae*, the species of which are evergreen trees or shrubs, with small, generally appressed and imbricated leaves, and with almost globular cones, the scales of which bear numerous hard seeds. The best known species is the

CYPRESS.

COMMON C. (*C. sempervirens*), native of the Levant, the n. of Africa, and the s. of Europe. It is a tree of no great height, with quadrangular twigs. The leaves are dark green,



Branch and Fruit of Cypress (*Cupressus sempervirens*).

and the tree has, therefore, a sombre aspect, and from very early times has been an emblem of mourning; the Greeks and Romans put its twigs in the coffins of the dead, they used it to indicate the house of mourning, and planted it about burial-grounds, as is still the custom in the East. The wood of the C. is yellow or reddish, and has a pleasant smell. It is very hard, compact, and durable: the ancients reckoned it indestructible; and the resin which it contains gives it the property of resisting for a long time the action of water. It is not liable to the attacks of insects, and was formerly much esteemed for the purposes of the cabinet-maker. Some believe that the C. is the true cedar-wood of Scripture, and it has also been supposed that it is *Gopher wood*. Specimens of this wood in museums are known to be several thousands of years old. The doors of St. Peter's at Rome, made of C., lasted from the time of Constantine the Great to that of Pope Eugene IV., above 1,100 years, and were perfectly sound when at last removed, that brazen ones might be substituted. Medicinal virtues were formerly ascribed both to the wood and to the seeds of the C., and the balsamic exhalations of the tree were reckoned very salutary in diseases of the chest.—Several other species of C. are natives of temperate and warm climates in different parts of the world. There are many species, the principal of which are the Portugal C. or Cedar of Goa (*C. Lusitanica*), native of Goa naturalized in Portugal; *C. thurifera*, native of Mexico, which exudes a resin used in that country for incense; *C. torulosa*, native of the Himalaya, which has been grown successfully in Britain; *C. funebris*, lately introduced into Britain from China; the White C. or White Cedar of N. America (*C. thyoides*). The

CYPRIAN—CYPRINIDÆ.

Deciduous C. or Virginian C. (*Taxodium distichum*, or *Schubertia disticha*), attaining a height of 120 ft., and growing in the cypress swamps of Delaware and some other states, is now regarded as belonging to a different genus. CYPRINE, a. *sĭp'rĭn*, pertaining to the cypress tree.

CYPRIAN, a. *sĭp'rĭ-ăn* [L. *Cyprus*, where Venus was worshipped]: pertaining to Cyprus: N. a lewd woman. CYPRIOT, n. -*ôt*, an inhabitant of Cyprus.

CYPRIAN, *sĭp'rĭ-an*, THASCIUS CÆCILIVS: illustrious father of the African Church: b. Carthage about the beginning of the 3d c.; d. 258. He belonged to a respectable family, and was a distinguished teacher of rhetoric before his conversion to Christianity, 246. His benevolence secured him great popularity, and his piety no less veneration; in consequence of which in less than three years he was made bishop of his native city. In 250, he fled into the desert, to avoid the persecution of Decius. Here he remained a whole year, but not in idleness. The same prudence, energy, and activity that he had always evinced were now shown in that extensive correspondence which he carried on with his clergy on ecclesiastical matters. On his return to Carthage, 251, he suppressed, but with moderation, the rising controversy regarding the *Lapsed* (q.v.), or Christians who, during the time of trial, had apostatized. C.'s views regarding the proper dignity of the Bishop of Rome have frequently been mistaken: he, indeed, recognized the Roman bishop as the successor of Peter, and as the representative of the unity of the church; but he asserted that the pre-eminence of the Roman see was confined to the earliest times, and that, in later times, other bishops, or successors of the apostles, had dignities equal to that of the successors of Peter. He therefore firmly opposed the supremacy asserted by the Roman bishop, Stephanus, in the question of baptism by heretics. In the persecution under Valerian, 257, C. was banished to Curubis; but having returned to Carthage in the following year, he was there beheaded. C. was both learned and eloquent, but he was even more conspicuous for his dignified, moderate, and wise conduct. His knowledge of human nature enabled him to exercise a wide influence over the African Church; and his correspondence, from which the best idea of his character is obtained, gives an interesting picture of the times in which he lived. His writings—less crabbed and rhetorical than those of his teacher, Tertullian—contain, besides 81 *Epistolæ*, or official letters, several important treatises, among which may be mentioned the *De Unitate Ecclesiæ Catholicæ*, the *De Lapsis*, the *De Disciplina et Habitu Virginum*, the *De Gratia Dei*, and the *De Idolorum Vanitate*. The best editions of C.'s complete works are that of Fell, Bp. of Oxford (1682), and of Baluze (Paris 1726). There are many lives of C. One of the most recent is by Reinkens (1873).

CYPRINE, n. *sĭp'rĭn* [L. *cuprum*, copper]: a blue mineral found in Norway.

CYPRINIDÆ, *sĭ-prĭn'ĭ-dē*: family of malacopterous

CYPRINODONTIDÆ—CYPRUS.

fishes, having a small mouth, the jaws almost toothless, but the pharynx or hinder part of the mouth furnished with teeth; the body generally covered with scales, the gill-rays few, and no adipose fin (like the second dorsal fin of the trout or salmon). The genera and species are numerous. All the C. are fresh-water fishes, and they are found in the lakes and rivers of almost all parts of the world. To this family belong the Carp, Dace, Tench, Bleak, Bream, Barbel, Minnow, Gold Fish, Roach, Loach, etc. Many of the species are much esteemed for the table. The fecundity of the C. is great.

CYPRINODONTIDÆ, *sī-prīn-o-dōnt'ī-dē*: family of malacopterus fishes, allied to *Cyprinidæ*, with which they were formerly ranked, but differing from them in having the jaws more protractile and toothed. Some are American, some Asiatic; some inhabit fresh, and some salt, water. To this order belong some interesting and curious fishes, particularly the Anableps (q.v.), remarkable for the conformation of its eyes. The species of the genus *Orestias* are found in the lakes of the Andes, at a great elevation above the sea, and are highly esteemed for the table.

CYPRINOID, a. *sīp'rī-noyd* [L. *cyprīnus*, a carp; Gr. *eidos*, likeness]: carp-like. **CYPRINODONTS**, n. plu. *sī-prīn'ō-dōnts* [Gr. *odous* or *odonta*, a tooth]: recent fossil species of carp-like small fishes.

CYPRIPEDIEÆ, *sīp-rī-pē-dī'ē-ē*: orchidaceous plants, genus *Cypripedium*, differing from other orchids in having two anthers instead of one; familiarly known as *lady's slippers* and *moccasin-flowers*. They have a range of growth from the tropics to Siberia and Canada, and exhibit a pleasing variety of species, as the common native (U. S.) stemless *C. acaule*, the yellow-flowered *C. parviflorum* and *C. pubescens*, the ram's head *C. arietinum*, the small white *C. candidum*, and, handsomest of all, the showy *C. spectabile*. They thrive best in deep peaty soil, are cultivated with ease, derive their popular name from the inflation of the third or lower lip or petal to the form of a sac resembling somewhat a slipper, and furnish *materia medica* a powerful antispasmodic.

CYPRIPEDIUM: see CYPRIPEDIEÆ: LADY'S SLIPPER.

CYPRIS, n. *sī'prīs*, **CYPRID'IDÆ**, plu. *-prīd'ī-dē* [Gr. *kuprīs*, a name of Venus]: genus of minute entomostrous crustaceans of the order *Branchiopoda* (q.v.), having the body inclosed in a shell of two horny pieces, somewhat resembling that of a bivalve mollusk. The antennæ and feet are beautifully feathered with long fringed bristles, by means of which these animals swim with much vivacity. They abound in pools of stagnant water. Their horny shells are very abundant in a fossil state in the Wealden rocks of England, in the limestone of the carboniferous series, etc.

CYPRUS, n. *sī'prūs* [*Cyprus*, an island in the Levant]: a thin, transparent, black stuff.

CYPRUS, *sī'prūs* [anc. Gr. *Kypros*, mod. Gr. *Kybris*, Fr.



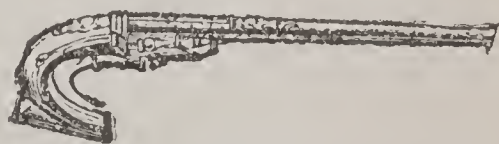
Branch of Cypress.



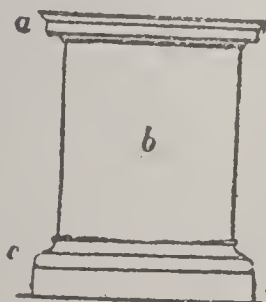
Common Daffodil (*Narcissus pseudo-narcissus*).



Cypripedium: 1, Column, back view; 2, Column, front view.



Dag.



Pedestal: *b*, Dado or die; *a*, Surbase; *c*, Base.



Broom (*Cytisus Scoparius*)

CYPRUS.

Chipre, Ital. *Cipro*]: island 46 m. s. of Asia Minor, 60 m. w. of Syria; in that n.e. portion of the Mediterranean called the Levant. C. was anciently divided into many small kingdoms. It was originally possessed by the Phœnicians, from whom it passed to the Greeks, subsequently to the Egyptians and Persians. After the victories of Alexander, it declared for Macedon. It next became a portion of the Græco-Egyptian kingdom of the Ptolemies, then of the Roman and Byzantine empires. The Arabs conquered it A.D. 648; in 1191, it was taken by Richard Cœur-de-Lion, who ceded it to the Templars. After several vicissitudes, it came into the possession of the Venetians (under whom the pop. is said to have been 1,000,000), from whom it was finally conquered by the Turks, 1571. The 'conditional convention' concluded between the English and Turkish governments, 1878, leaves C. a Turkish possession, but provides for its being occupied and administered by England: it is now actually a British dependency.

The island was a celebrated seat of the worship of Venus, introduced in remote antiquity when it was colonized by the Phœnicians who inhabited the neighboring coast: the Phœnician goddess Ashtaroth (Astarte of the Greeks, and, later, Venus of the Romans) had here numerous temples and altars—scenes of a frightfully impure idolatry. Under the guidance of Gen. di Cesnola, U. S. consul in Cyprus, 1865 and subsequent years, treasures of ancient art, wonderful for beauty, value, and number, were exhumed, of which the great part were purchased for the city of New York, and are now open to the public in the Metropolitan Museum of Art in Central Park. The collection comprises many hundreds of objects, such as rings, diadems of kings, vases, sculptures, etc., some of which date 3,500 years ago.

C. is 145 m. long, by 60 m. broad; area 3,700 sq. m. A range of mountains—the Stavro Vuno and Santa Croce (ancient *Olympus*)—the sides of which are very bold and rugged, runs through the whole length of the island, attaining an elevation of nearly 7,000 ft. above the sea. Three-fifths of the island is mountainous. Of these one-fifth has noble forests of oak interspersed with walnut-trees, and would furnish large supplies of sulphur, pit-coal, and metals of various kinds, under intelligent management; while two-fifths is adapted for vine and olive culture, and the growth of fruit trees generally. 'The remaining two-fifths is composed of magnificent plains, and extensive open country, which, though wanting in rivers and streams, are still very productive in cereals.' The soil is exceedingly fertile, yielding all kinds of grain. The chief products are wheat, barley, cotton, silk, madder roots, oil, wine, carobs, and salt. The wine of Cyprus is still excellent. The chief drawbacks to production, besides mismanagement, are the want of water—most of the streams becoming dry in summer—and the ravages of the locusts. It is said that there are good crops only twice in five years. The climate varies in various parts of the island; in the central plain, and about Larnaca, the summer heat is intense, especially from the middle of Sep. till the end of Oct.

CYPSELA—CYRENAICA.

Fevers, seldom fatal, are prevalent in the hot months. The first year of the English occupation, 1878, was exceptionally unhealthful both for natives and for foreigners; 1879 and 1880 were extremely healthful. The planting of trees, which have been hitherto recklessly extirpated, will doubtless improve the climate and help to fertilize again the more arid regions. Some swamps might with advantage be drained. Several roads have been made.

The English, in entering on the administration, endeavored in the main to improve, not to overthrow, the existing Turkish system. The courts of justice, having English assessors, became pure and less dilatory. Tithes were retained, but their collection simplified. Several rather high-handed ordinances, designed to prevent disturbance during a transition period, were withdrawn; and in 1880 the administration of C. was transferred from the foreign office to the colonial office. About one-fourth of the inhabitants are Mohammedans, the rest orthodox Greeks.

In 1879 the imports were valued at £208,407; the exports, at £222,218. In the year 1900-1 the imports were £364,092, the exports, £311,130. Between 1879 and 1885 the direct trade between C. and the United Kingdom rose from £79,300 to £160,180. The chief towns are Lefkosia or Nicosia, the capital; Famagosta, Larnaca, and Limassol. In 1871, C. was connected by telegraph with Syria. Pop. (1891) 209,291; (1901) 237,022.

See works on C., published in 1878 and 1879 by R. H. Lang, Hepworth Dixon, E. G. Ravenstein, Sir Samuel Baker, and Mrs. Stevenson, also the *Report by H. M. Commissioner* for 1879 (1880); and for archeology, Cesnola's *Cyprus* (1877).

CYPSELA, n. *sĭp'sĕl-ă* [Gr. *kupsĕlē*, a hollow, a chest]: the inferior, monospermal, indehiscent fruit of *Compositæ*; an achæmium.

CYPSELUS: see SWIFT.

CYR, St., *săng sēr*: village in France, dept. of Seine-et-Oise, abt. 3 m. w. of Versailles. The village owes its origin to an educational institution for the daughters of nobles of fourth descent on the father's side, founded here 1686 by Louis XIV., on the suggestion of Madame de Maintenon. There were about 250 pupils, for whom Racine wrote his tragedies of *Esther* and *Athalie*. Madame de Maintenon died here, and was buried in the choir of the church. The institution was suppressed at the Revolution. In 1803, the buildings were converted by Napoleon to the uses of a military school, which still continues. Pop. of St. C. (1896) 4,205.

CYRENAIC, a. *sĭ'rĕ-nă'ĭk*: pertaining to *Cyrĕnĕ*, a Grecian colony on the n. coast of Africa. CYRENAIC SCHOOL: see ARISTIPPUS. CYRE'NIANS, n. plu. *-rĕ'nĭ-ănz*, the philosophers of a school founded at Cyrene.

CYRENAICA, *sĭr-ĕ-nă'ĭ-kă*: ancient district in Africa, whose capital was Cyrene (q.v.); at one period nominally extending from Carthage to Egypt, and inland as far s. as the oases of Fezzan; but a great portion of this territory

CYRENE—CYRIL.

was occupied by the subject Libyan tribes, and not by the Greek colonists, who were confined chiefly to the plateau of Barca, with the subjacent coast. This portion of C. was, and still is, one of the loveliest and most agreeable regions of the world. The climate delicious, mountains on the s. sheltering the land from the scorching blasts of the Sahara, and cool sea-winds fanning it on the north. From the central plateau, whose breadth is about 80 m., the land slopes down in verdant terraces to the Mediterranean. These terraces are cut and watered by mountain streams, forming luxuriant ravines. The productions of C. mentioned by ancient writers are corn, oil, wine, honey, fruits of all kinds, cucumbers, truffles, cabbage; flowers yielding the richest perfumes; and a rare plant called *silphium* (still abundant), from which was obtained the gum-resin, greatly esteemed for medicinal purposes. The country was noted for its breed of horses, but was much exposed to the ravages of locusts. Ancient C., which nearly corresponds with modern Barca (q.v.), was overrun by the Arabs in 647.

CYRENE, *sī-rē'nē*: capital of Cyrenaica (q.v.); founded, B.C. 631, by a colony of Spartans under Battus, whose dynasty lasted nearly two centuries. During this period, it made rapid advances. On the death of Arcesilaus IV., the last of the Battidæ, about B.C. 450, a republic was established, but the political condition of the city under the new government was far from prosperous. Party contests raged, until at last it fell into the hands of the Romans. During its prosperity, C. carried on a great commerce with Greece and Egypt, and to a less extent with Carthage. Its extensive ruins still attest its former magnificence. C. was the birthplace of the philosophers Aristippus, Anniceris, and Carneades, the poet Callimachus, the astronomer Eratosthenes, and the rhetorician Synesius, who afterward became bp. of Apollonia.

CYRENIUS, *sī-rē'nŭ-ŭs*, **PUBLIUS SULPICIUS**: called **QUIRINUS** by the Romans: gov. of Syria: d. A.D. 22. He was born at Lanuvium, and though descended from an obscure family, attained great honor through the favor of Augustus. It is believed that he held the office of gov. of Syria twice, B.C. 4 to 1 and A.D. 6 to 11. He was appointed preceptor of Caius, grandson of the emperor; married a grand-daughter of Sylla and Pompey.

CYRIL, *sŭr'ŭl*: prof. of law in the ancient college of Berytus, in the 5th c., called 'the great C.' to distinguish him from the noted jurist of a later day who compiled an epitome of the Digest. He had a great reputation as a teacher of law, wrote a learned treatise on legal definitions, was a founder of the ecumenical school of jurists which preceded Anastasius's succession to the eastern empire, and translated the commentary of Ulpian on the *Edict* and the *Responsa Papinianŭ*, and wrote a number of works showing an acquaintance with the ancient sources of law.

CYR'IL: 'apostle of the Slaves' in the 9th c.: d. 869. He sprang from a respectable family in the half Slavic,

half-Greek town of Thessalonica. On account of his knowledge, he obtained the surname of the Philosopher. Having been consecrated a priest, he went forth during the reign of the Byzantine emperor, Michael III., to evangelize the Chasars, who dwelt by the Caspian Sea. His labors were very successful, the khan himself being among his converts. Boris, heathen prince of Bulgaria, having about this time besought the patriarch of Constantinople to send him a preacher of the gospel, C., with his brother Method, were selected. Their labors were not in vain. Boris was baptized 860. Rastic, prince of Moravia, next invited them to his country. They accepted the invitation, and while there, assisted by a number of their own pupils, completed their translation of the Holy Scriptures, which is in use to the present day, as a sacred or church language, among all Greek-Catholic Christians (Russians, Bulgarians, and Serbs). From Moravia, Christianity, according to the Slavic ritual, spread into Bohemia, whose prince, Boriwoj, and his spouse, Ludmilla, were baptized by Cyril. C. invented, abt. 863, the Cyrillic Alphabet, which, modified, is the present Russian alphabet. The *Apologi Morales*, ascribed to C., were published by Corter (Vienna 1630). See Richter's *Cyril and Method* (Olmütz 1825).

CYRIL, SAINT: Bishop of Alexandria, beginning 412; d. 444; one of the most energetic, but least amiable, of the church fathers. The date of his birth is not known. He was educated by the fanatical monks of Nitria, with whom he lived for five years, and who probably inspired him with that fiery, intolerant, and ignorant zeal which characterized him through life. Subsequently, he went to Alexandria, where he became a presbyter, and on the death of his uncle Theophilus, 412, obtained the episcopal see. The Alexandrian Jews, who were numerous and wealthy, were the first to feel the fierceness of his religious hate. Some Christian blood having been shed by them in a city tumult, C. put himself at the head of a rabble of zealots, attacked the Jewish quarter of Alexandria, destroyed the houses, and banished the inhabitants. Orestes, the prefect of Egypt, having drawn up an accusation against C., was attacked in the streets by 500 monks, who had come up from the deserts of Nitria, at the call of their old companion, eager for the work of destruction. One of these monks having fallen in the skirmish, his corpse was carried in procession to the High Church of Alexandria, where C. delivered a sanguinary discourse, gave the dead monk the name of *Thaumasius*, and pronounced him a martyr and a saint. But perhaps the most barbarous deed with which this persecutor of heretics and heathens had to do was the murder of the heathen maiden Hypatia (q.v.), daughter of the mathematician Theon. Theodoret gravely accuses him of instigating the Alexandrian populace to this horrid act. But the most important historic event in his career was his controversy with Nestorius (q.v.). All the worst features of his disposition appeared in this broil. Even the gentle Neander overflows with pious wrath, and pursues C. through 60 pages of his *Church History* with the fiercest epithets. In

CYRIL—CYRUS.

the midst of unquietudes, which he himself had largely occasioned, he died. C.'s numerous writings consist of commentaries, treatises, homilies, epistles, etc. The best edition was published by Aubert (7 vols. Paris 1638). See Neander's *Kirchengeschichte*, transl. by Bohn, IV, 133-196.

CYRIL, SAINT: Bishop of Jerusalem; eminent church father: abt. 315-386; b. Jerusalem. He was ordained deacon 334, presbyter 345, and on the death of Maximus 351 was elected bishop of his native city. His metropolitan was the Arian bp., Acacius of Cæsarea, with whom he was soon engaged in hot conflict concerning originally the rights of his office, but ultimately their differences of doctrine. Acacius accused C., before a council hastily gathered at Cæsarea, 358, of selling the treasures of his church in a time of famine to feed the poor! Strange to say, C. was deposed for doing this praiseworthy action. He now appealed to a larger synod, held at Seleuceia. This synod restored him to his office; but once more, through the persevering hostility of Acacius, he was deposed by a council at Constantinople, 360. On the death of the emperor Constantius, he was again restored to his episcopate. 362. Soon afterward his old enemy Acacius died, but C. was immediately involved in new difficulties. After considerable strife, C. was banished, by order of the emperor Valens, 367; nor did he return till the emperor's death, 378.

C.'s writings are extremely valuable, not for vigor, profundity, or beauty, but for theology. They consist of 23 treatises, 18 of which are addressed to catechumens, and 5 to the newly baptized. The former are for the most part *doctrinal*, and present in a more complete and systematic manner than the extant writings of any other father the creed of the church; the latter are *ritual*, and give a minute account of baptism, chrism, and the Lord's Supper. Their style is simple and unattractive. The best edition of C.'s works was published by Touttée, Benedictine monk (Par. 1720).

CYRIOLOGIC, a. *sī'rī-ō-lǝj'ik* [Gr. *kurios*, chief; *logos*, discourse]: pertaining to capital letters.

CYRUS (river in Asia): see KURA.

CYRUS, *sī'rūs*: founder of the Persian monarchy, commonly called C. **THE ELDER**: d. B.C. 529. According to Herodotus, he was son of Cambyses, a Persian noble, and of Mandane, daughter of Astyages, Medo-Persian king. His birth was a source of alarm to his grandfather Astyages, who had previously had a dream, the interpretation of which portended that the offspring of Mandane would one day be the ruin of the Median supremacy and the ruler of all Asia. He therefore contrived to get the infant into his own hands, and gave it to Harpagus, his chief servant, with orders to put it to death. Harpagus promised to do so, but intrusted it privily to the care of a herdsman, who brought up the child with his own children. The young C. quickly distinguished himself among the country lads by his superior daring and dignity. On one occasion, he was elected king in some boyish game by his companions,

and, in the exercise of his regal authority, caused a nobleman's son to be severely scourged. The father complained to Astyages, who caused the culprit to be brought before him, and recognizing in his person and mien his own grandson, sent C. back to Persia—the Magi having in some way satisfied him that his dream had already received its fulfilment. C. himself, however, did not think so, and as he grew up to manhood, began to meditate ambitious schemes. All writers testify to his courage, amiability, and address. He was exactly the kind of man to gather round him brave, venturesome, loyal followers. The tyranny of Astyages had made him hateful to his subjects, and by the help of the crafty Harpagus, C. soon formed a party among the Medes favorable to his designs. Putting himself at the head of his Persian troops, C. advanced into Media, and overthrew the forces of Astyages (B.C. 559). After consolidating his new dominions, which seems to have cost him many years' labor, he proceeded in his career of conquest. The kingdom of Lydia first yielded (B.C. 546), and its king, the famous Cræsus, fell into his hands. Ultimately, the whole of Asia Minor was subdued. But the crowning triumph of C. was his capture of Babylon, the metropolis of Assyria (B.C. 528), whose king was the Belshazzar of Daniel [as recent researches show, Nabonedus, who had left as associate king in Babylon his son, Belshazzar]. Through the instrumentality of C., the Jews were delivered from their captivity, and allowed to return to Palestine. His vast ambition, however, proved his ruin. He wished his power to overshadow all Asia, in harmony with the dream of his grandfather; and though his dominions already extended from the Hellespont almost to the Indus, he resolved to subjugate the Seythian peoples, and began an unjust war with the Massagetæ, a nation or tribe n.e. of the Caspian, beyond the Araxes, whose queen was called Tomyris. At first C. was successful, but in a second engagement he was defeated and slain.

Such is the account given by Herodotus; and though we are unable to affirm that it rests on absolutely historical ground, it is unquestionably to be preferred to any other. The work of Xenophon, entitled the *Cyropædeia*, is not a history; it is a historical romance, and was manifestly intended by the author for such. Xenophon wished to picture a great and wise king, and finding the elements both of greatness and wisdom in C., he took advantage of his historic personality, and engrafted upon it whatever, according to his own notion, would ennoble and dignify it.

CYRUS, THE YOUNGER: second son of Darius Nothus, or Ochus; lived about 130 years after the great Cyrus. He conspired against his brother Artaxerxes Mnemon, who had succeeded to the throne (B.C. 404). The plot being discovered, he was at first sentenced to death, but afterward pardoned, and even restored to his dignity as satrap of Asia Minor. Here he employed himself in secret arrangements for war against his brother. In the spring of B.C. 401, he left Sardis at the head of 100,000 Asiatics and 13,000 Greek mercenaries, under pretense of chastising the robbers of Pisidia. Artaxerxes

CYST—CYSTICERCUS.

xerxes being warned of C.'s perfidy, made preparations to oppose him, and the two armies encountered each other in the plains of Cunaxa, 500 stadia from Babylon. C. was defeated and slain, though the Greeks fought with the greatest courage, and even routed that portion of Artaxerxes' troops immediately opposed to them. The fortunes of the Greeks, on their retreat through the highlands of Armenia, in severe winter-weather, are recorded by Xenophon in his *Anabasis* (q.v.).

CYST, n. *sĭst*, or **CYSTIS**, n. *sĭs'tĭs* [Gr. *kustis*, a bladder]: in animal bodies, a bag or vesicle. **CYS'TIC**, a. *-tĭk*, pertaining to or contained in a cyst. **CYSTICA**, n. *sĭs'tĭ-kă*, the embryonic forms of certain intestinal worms, as tape-worms: see **CYSTIC WORMS**. **CYS'TICLE**, n. *-tĭ-kl*, a small cyst. **CYSTINE**, n. *sĭs'tĭn*, a body related to urea, forming a rare kind of calculus in the human bladder. **CYSTID'EANS**, n. plu. *-tĭd ĭ-ănz*, or **CYSTOIDEA**, n. plu. *sĭs-toy'dĕ-ă* [Gr. *eidos*, appearance]: in *geol.*, a family of palæozoic echinoderms, having a spherical or bladder-like form. **CYSTIPHYLLUM**, n. *sĭs'tĭ-fil'lŭm* [Gr. *phullon*, a leaf]: in *geol.*, a genus of Silurian turbinated corals, composed internally of small bladder-shaped cells. **CYSTI'TIS**, n. *-tĭ'tis*, inflammation of the bladder: see **BLADDER**. **CYS'TOCARP**, n. *-tō-kârp* [Gr. *karpōs*, fruit]: the body which contains the reproductive cells in certain red sea-weeds. **CYS'TOCELE**, n. *-tō-sĕl* [Gr. *kĕlē*, a tumor]: hernia or rupture of the bladder. **CYS'TOLITHS**, n. plu. *-lĭths* [Gr. *lithos*, a stone]: in *bot.*, curious groups of crystals found in the superficial cells of nettles, and some other plants, as in the India-rubber plant. **CYSTOID**, a. *sĭs'toyd* [Gr. *eidos*, resemblance]: resembling a cyst. **CYS'TOSE**, a. *-tōz*, containing cysts. **CYSTOT'OMY**, n. *-tōt'ō-mĭ* [Gr. *tomē*, a cutting]: the act or art of opening encysted tumors. **CYSTID'IA**, n. *-tĭd'ĭ-ă*, in *bot.*, sacs containing spores; a kind of fructification in *fungi*.

CYST: in the original sense, a hollow internal organ with thin walls, as the urinary bladder and gall bladder; but commonly denoting pathological structures or new formations within the body, having the bladder form. Cysts are commonly transparent, often almost structureless in their tenuity; they are usually, however, lined by an epithelium (q.v.), and have membranous walls, with faint indications of fibrous structure. They are either simple or compound, unilocular or multilocular; they are sometimes small, numerous, and separate; in other cases they grow to an enormous size, and are very complex. Some cysts are distinctly parasitic, and of independent animal nature; such are Hydatids (q.v.) and the cystic Entozoa (q.v.) generally. Others are probably formed out of the structures in which they arise; their true pathology is obscure. Such are the cysts of the kidney, and, still more distinctly, the immense complex cystic structures which sometimes form in the ovary: see **OVARIES**.

CYSTICERCUS, *sĭs-tĭ-sĕr'kŭs* [Gr., bladder-tail]: according to many naturalists, a genus of Cystic Worms (q.v.) characterized by a dilated cyst with a single head,

CYSTIC WORMS—CYTHEREAN.

which has four suckers and a circlet of hooks. This genus has, however, latterly been displaced from the system of nature by the discovery that the forms referred to it are only the young of tape-worms. This discovery has been confirmed by a multitude of observations and experiments with regard particularly to *C. cellulose*, found in human beings, and in many rodent and pachydermatous animals—as rabbits, pigs, etc.—the young of the common tape-worm; and *C. tenuicollis*, found more rarely in human beings, but often in the abdominal cavity of ruminant quadrupeds, and of pigs, horses, and many other animals—the young of a tape-worm of the dog. *C. cellulose* often exists in great numbers in the flesh of pigs, causing the diseased appearance known as *measly*: see CESTOID. It sometimes occurs in like manner infesting the human body, in muscles of most various parts; it has been found even in the heart, in the brain, and in the eye. That in such cases it sometimes causes death is certain, and its removal is not easy, except when it is so situated that it can be reached by the knife, nor is there any sure indication by which its presence in many situations can be known; but it appears also that it may die and be absorbed without causing any very serious consequences to the person in whom it has dwelt. The cysts of this species are always small; those of *C. tenuicollis*, however, which generally occurs in the liver, or in other abdominal organs, sometimes become, in some of the lower animals, as large as a child's head. Injurious consequences are produced by them when either numerous or very large: see Cobbold's *Entozoa*.

CYSTIC WORMS: order of *Entozoa*, or Intestinal Worms, according to the system of Zeder and Rudolphi, for some time generally received by naturalists; characterized by the body ending in a transparent cyst or bladder filled with pellucid fluid, this body having sometimes only one head, as in *Cysticercus*, sometimes many, as in *Cœnurus*. It has, however, been found that certain species, as *Cysticercus cellulose* and **Cœnurus cerebralis*, are the young of cestoid worms, and it is therefore deemed highly probable that all the C. W. are of the same nature, particularly as all present the appearance of immaturity, in the want of visible organs of reproduction. Until a comparatively recent date, the animal nature of C. W. was not recognized, nor is it long since their relation to tape-worms and other cestoid worms has been fully ascertained. See CESTOID: CYSTICERCUS: ECHINOCOCCUS: STAGGERS: TAPE-WORM.

CYSTIN, or CYS'TIC OXIDE: rare variety of calculus (q.v.). It contains $C_6H_6NO_4S_2$, has a crystalline texture, a brownish-yellow color, and is semi-transparent. It is not soluble in water, alcohol, or ether, but dissolves in the strong acids.

CYSTITIS: inflammation of the urinary bladder (q.v.).

CYTHERA: see CERIGO.

CYTHEREAN, a. *sīth'ēr-ē'ăn* [*Cythērā*, an island in the Ægean Sea, now Cerigo, celebrated for the worship of Ve-

CYTISUS—CZAR

nus]: of or belonging to Venus, or to love. *CYTHERIDÆ*, n. plu. *sì-thěr'ĩ-dē*, a family of minute bivalve crustaceans.

CYTISUS, *sīt'ĩ-sūs*: genus of plants of the nat. ord. *Leguminosa*, sub-order *Papilionaceæ*, of which some species having long twiggy branches are popularly called *BROOM* (q.v.), others are called *Laburnum* (q.v.), while others still are generally known by the name *Cytisus*. For the characters of the genus, see *BROOM*. The species are numerous—small trees or shrubs, with leaves of three leaflets, and yellow, white, or purple flowers, natives chiefly of the warmer temperate parts of the old world. Many are very beautiful, and some are esteemed ornaments of shrubberies or green-houses.

CYTOBLAST, n. *sītō-bläst* [Gr. *kutos*, a vessel, a cell; *blastano*, I bud]: the nucleus of animal and vegetable cells: see *CELL*: *CELL THEORY*. *CY'TOBLASTE'MA*, n. *-bläs tē'mă*, the viscous fluid in which animal and vegetable cells are produced, and by which they are held together.

CYTOGENESIS, n. *sītō-jěn'ě-sīs* [Gr. *kutos*, a cell; *genesis*, origin]: the development of cells in animal and vegetable structures. *CYTOGENETIC*, a. *sītō-jěn-ět'ik*, pertaining to cell-formation. *CYTOGENOUS*, a. *sī-těj'ě-nūs*, having connective tissue. *CYTOGENY*, n. *sī-těj'ě-nĩ*, cell-formation.

CYTOID, a. *sītōyd* [Gr. *kutos*, a vessel, a cell; *eidos*, resemblance]: resembling a cell.

CYZICUS, *siz'ĩ-kūs*: peninsula of Anatolia, Asia Minor, projecting into the Sea of Marmora; s.e. of the island of Marmora, and about 70 m. s.w. of Constantinople. It was at one time an island, but the gradual formation of an isthmus connected it with the mainland. It measures from s. to n. about 9 m., and from e. to w. 18 m. In early times, C. was a Milesian colony, and the city of C., upon whose site vineyards and orchards now flourish, is described by Strabo as one of the first cities in Asia for both extent and splendor.

CZACKI, *châts'kē*, *TADEUSZ*: 1765–1813, Feb. 8; b. Poryck, in Volhynia: Polish author. At the age of 20, he obtained an office in the supreme judiciary court at Warsaw, and was also made director of the crown archives—enabling him to gratify his taste for Polish history. Some essays on Polish finance induced the diet to select him, 1788, as a member of the commission of inquiry into the state of the revenue. A valuable result of his travels and labors in Poland is a map of its river system. The chief labor of his life was in connection with the education of his countrymen, especially in the old Polish provinces of Russia, where education had been almost wholly neglected. In 1807, he was appointed the deputy of Prince Czartoryski, who had the care of public instruction in the Polish govt. of w. Russia. C. died at Dubno. His most valuable work is upon Lithuanian law (*O Litewskich i Polskich Prawach*, 2 vols. War. 1800).

CZAR, n. *zâr*, sometimes written *TZAR* [Polish form of the Russian title of the *Kaiser*, *Cæsar*, or *Emperor*: Russ.

CZARTORYSKI.

Tsare]: title of the emperor of Russia; a king. **CZARINA**, n. *zâr-ĕ'nă*, title of the empress of Russia. **CZAROWITCH**, n. *zâr-ŏ vĕtz*, eldest son of the emperor of Russia. **CZAREVNA**, n. *zâr-ĕv'nă*, wife or consort of the Czarowitch; one of the daughters of the Czar.—The word Czar is derived from the old Slavonic language, and signifies much the same as Ger. *Kaiser*, Lat. *Cesar*, to which it probably owes its origin; though some etymologists identify it with the termination of the names of the old Assyrian kings—such as Phalassar, Nabonassar, and Nabopolassar. After the 12th c., the Russian annalists gave the title of Czar to the Grand Duke Wladimir, Monomach (died 1125), and to several of his successors. In general, however, the rulers of the various Russian provinces were called Grand Dukes till the 16th c.; e.g. the Grand Dukes of Wladimir, Kiew, Moscow, etc. The Grand Duke Wassilij Iwanowitch first assumed, 1505, the title of *Samodershez*, which signifies autocrat. The son of Wassilij, Iwan II., Wassiljewitch the Cruel, caused himself to be solemnly crowned Czar, 1547, Jan. 16. From this time, the Russian monarchs called themselves Czars of Moscow; and after the conquest of Little Russia and Smolensk, Czars of All the Russias. The word now became practically the equivalent of emperor; yet Peter I., 1724, thought fit to assume this latter title in addition; and as the Russian language had no term corresponding to it besides Czar, the Latin word *Imperator* was introduced, while the empress was termed *Imperatrix*. At first, several European powers refused to sanction the assumption of imperial dignity by the Russian Czar, but ultimately consented to do so. The wife of the Czar was named Czariza (Czarina); the sons, Czarewitch; the daughters, Czarevna; but after the death of Alexei—Peter I.'s son—these titles were abolished, and the imperial princes were called Grand Dukes, and the imperial princesses Grand Duchesses. In 1799, the emperor Paul I. introduced the title of Cesarewitch (not Czarowitch) for his second son, the Grand Duke Constantine. The heir-apparent and his wife are still called Cesarevitch and Cesarevna. Among the Russian people themselves, the emperor is more frequently called Gossudar (Hospodar, i.e., Lord) than Czar.

CZARTORYSKI, *châr-to rîs'kĕ*, ADAM GEORGE: 1770, Jan. 14—1861, July.; b. Warsaw; son of Prince Adam Casimir C., of an ancient Polish house, sometimes (but wrongly) said to be sprung from the Jagellons (q.v.). Having completed an excellent education at Edinburgh and London, he returned to his native country, and took part against Russia in the war at the second partition of Poland. On the defeat of the Poles, C. was taken to St. Petersburg as a hostage, and showed so much ability and prudence as to gain the friendship of the grand duke Alexander, to whom he was attached, and the confidence of the emperor Paul, who made him ambassador to Sardinia. When Alexander ascended the throne, he appointed C. assistant to the minister of foreign affairs; and he was in official life until after the peace of Tilsit. As curator of the university of Wilna,

CZASLAU—CZENSTOCHAU

to which he was nominated 1803 by Russia, he exerted all his influence to keep alive a spirit of nationality; and when some of the students were arrested on a charge of sedition, and sent to Siberia, C. resigned his office. His successor reported to the emperor that the amalgamation of Russia and Lithuania had been delayed a century by C.'s occupancy of the curatorship. Russian favors could not deaden C.'s patriotism. In the revolution of 1830, he was elected president of a provisional government, and in this capacity summoned a national diet, which met, and, 1831, Jan., declared the Polish throne vacant, and elected C. head of the national government. He immediately devoted half of his large estates to the public service, and adopted energetic measures to meet the power of Russia, but in vain; the Poles were crushed, and C.—specially excluded from the general amnesty, and his estates in Poland confiscated—escaped to Paris, where he afterward resided, the liberal friend of his poor expatriated countrymen. In 1848, he liberated all his serfs in Galicia, and during the Crimean war he ineffectually endeavored to induce the Allies to identify the cause of Poland with that of Turkey.

CZASLAU, *chás'low*: town of Bohemia, 45 m. e.s.e of Prague. Its deanery-church, in which the celebrated blind Hussite leader, Gen. Ziska, was buried, is surmounted by the highest steeple in Bohemia. C. is noted as the scene of an important victory over the Austrians by Frederick the Great, 1742, May 17. There are copper-works, manufactures of chicory and beet-root sugar, and a distillery. Pop. 8,388.

CZECH, n. *tzěk* or *chěk*: native name of the Bohemians: the language spoken in Bohemia, Moravia, and Silesia, and by the Slovaks of n. Hungary; also spelt TSECH. The Czechs are the most westerly branch of the great Slavic family of nations. About A.D. 451–495, the C. migrated from their lands in Carpathia, on the upper Vistula, and came into the country now known as Bohemia. According to tradition, their chieftain was named Czech. Georgsberg, near Raudnitz, on the Elbe, is said to have been the first place chosen by the C. for their encampment. Other Slavic tribes migrated into Bohemia; but in the course of time the C. gained such ascendancy that, in the 9th c., the name C. was commonly applied to the whole Slavic population of Bohemia (q.v.). Here, in Moravia, and in other parts of Austria, the C. now number in all above 6,000,000.

CZEGLED, *tsă'glěd*: market-town of Hungary, 40 m. s.e of Pesth. It has some handsome buildings and large breweries. The inhabitants are employed principally in agricultural pursuits, the district around yielding much grain and red wine. Pop. (1880) 24,872; (1900) 30,106.

CZENSTOCHAU, *chěns-tō'chow*, or **CZENSTOCHOWA**, *chěns-to-čhō'vá*: monastery of the order of St. Paul the Hermit, in the Polish govt. of Kalisch; the most frequented place of pilgrimage in the whole country, and celebrated throughout the Slavic nations. It occupies a commanding position on the Warthe, not far from the Silesian frontier, and possesses the famous dark-colored picture of the

CZERKASY—CZERNY.

mother of Christ, which has given occasion to the worship of the Black Virgin by all the Polish Catholics. This picture is probably of Byzantine origin. According to the legend in connection with it, it was painted by Luke himself; passed into the hands of the princess Helena; subsequently found its way through a Russian prince, Laon, to Belz in Galicia; and finally, through Wadyslaw, Duke of Oppeln, who built the monastery of C., was brought thither to assist him against the Tartars. In more recent times, C. is noted as the only place in Poland which offered resistance to the army of Charles Gustavus, king of Sweden, on which occasion (1655) the inmates, comprising 70 monks and 150 soldiers, withstood a siege of 38 days carried on by a Swedish force of 10,000 men. At a later period, C. lost its importance as a military position. At the foot of the eminence on which the monastery stands lie two little towns, Old and New C., which carry on considerable trade in holy pictures and amulets.

CZERKASY, *chěr-ká'sē*: town in Russia, govt. of Kiev. It is on the river Dnieper. Pop. 13,311.

CZERNOWITZ, *chěr'nō-vīts*: city, cap. of Bukowina in Austria; on a hill near the right bank of the Pruth, about 140 m. s.e. of Lemburg. It is the seat of a Greek archbishop; and in 1875 a university was founded here. The manufactures are fast developing. Pop. (1869) 33,884; (1880) 45,600; (1891) 57,403; (1900) 67,622.

CZERNY, *chěr'nē*, **GEORGE** (Turkish, *Karadjordje*, i.e., Black George): leader of the Servians in their struggles for independence: 1770–1817, July; b. the neighborhood of Belgrade. He showed, when young, his hatred of the oppressors of his country by murdering a Moslem. After spending some time in Austria, he returned to his paternal estate. In 1801, Aug., a band of janizaries broke into his dwelling, and plundered it. C. fled, vowing vengeance. He soon collected a band of malcontents, and commenced a sort of guerilla war. Gradually his numbers increased, and in 1804 he captured the fortress of Schabaz. Subsequently, he invested Belgrade, and in the beginning of 1806 routed the Turks at the rivers Drina and Morawa. Assisted secretly by Russia, he captured Belgrade 1806, Dec. After the treaty of Slobosje (1808, July 8), he was elected gov. by the people, and recognized as Prince of Serbia by the sultan. The French invasion of Russia 1812 compelled the latter country to let Serbia shift for itself. Hostilities recommenced; the Turks were successful, and C. had to flee to Russia. He afterward went to Austria. Meanwhile, the freedom of Serbia had been secured through the leadership of Milosch Obrenowicz; and 1817, July, C. returned, intending, as some suppose, to rally his partisans for the furtherance of his ambitious schemes, when he was murdered at the instigation of Prince Milosch.

CZERNY, *chěr'nē*, **KARL**: 1791–1857; German musical composer and teacher. His pieces were very numerous, and his *Practical School of Composition* has had extensive use. Among his pupils was the Abbé Liszt.

D.

D or d, *dē*: consonant; fourth letter in the English and all the Græco Roman alphabets; called in the Semitic languages *daleth* (hence Gr. *delta*, i.e., 'door;') and in all probability its original hieroglyphic or picture form was a door. The Greek Δ, in fact, yet preserves a recognizable resemblance to the door or opening of a tent, the kind of door most familiar to a nomadic people. D belongs to the order of letters called *dentals* (see LETTERS: ALPHABET), *t*, *d*, *th* (in *thin*), *th* (in *thine*), and in the corresponding words of sister-languages is often exchanged with those of the same order or organ; thus: Ger. *du*, Eng. *thou*; Ger. *tod*, Eng. *death*; Lat. *duc-*, Eng. *tug*; Lat. *duo*, Eng. *two*. A more remarkable interchange is that between *d* and *l*, and *d* and *r*; see L and R. D seems to have been drawn into some words (to which it does not radically belong) by a kind of affinity for *n*, as Lat. *canis*, Gr. *kyon*, Eng. *hound*; Lat. *gener-*, Eng. *gender*. *Di* followed by a vowel is sometimes transformed into J; as in *Janus* for *Dianus*; *Journal* from *diurnal*. *Di* followed by a vowel in Latin, has in Italian become *z*; and from mss. and other evidence, we know that this sibilant sound of *di* prevailed, in the popular pronunciation at least, while Latin was yet a living tongue. Thus, *diabolus* is found written *zabolus*, and *Amazones*, *Amadiones*.—D, the Roman numeral for 500, arose out of the character IƆ: see NUMERALS.

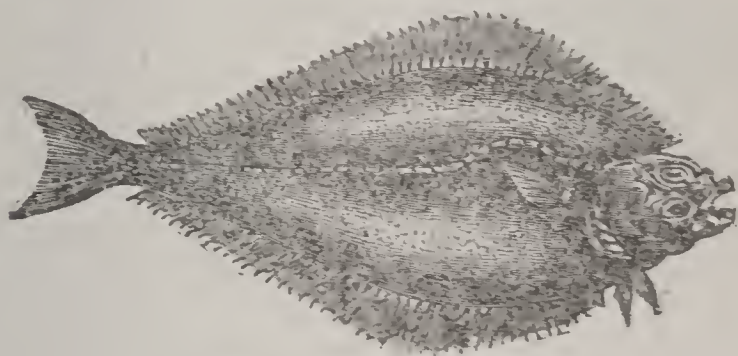
D, in Music: second note in the natural scale; a whole tone above C, to which it stands in mathematical proportion as 9 : 8, that is, when C vibrates eight times, D vibrates nine times. The whole tone from C to D is called the greater whole tone, being a comma larger than the next whole tone from D to E.

DAB, v. *dāb* [a word imitative of the sound of a blow on a soft substance, as clay: F. *dauber*, to beat—from old Ger. *dubban*, to dab: old Dut. *dabben*, to pinch]: to strike gently: N. a gentle blow; a small lump of anything soft and moist; something moist thrown on a person; a small flat fish like a sole or plaice. DAB'BING, imp. DABBED, pp. *dābd*. DAB'BER, n. an instrument used by engravers and others for applying ink. DABBLE, v. *dāb'l*, to play among water, or among mud and water; to throw water and splash it about; to do anything in a slight and superficial manner; to meddle; to do anything in a small way. DABBLING, imp. *dāb'ling*. DABBLED, pp. *dābld*. DAB'BLINGLY, ad. *-lī*. DAB'BLER, n. *-lēr*, one who meddles without going to the bottom; a superficial meddler.

DAB, n. *dāb* [corrupted from *adept*]: an expert; an adept.

DAB—DACCA.

DAB (*Platessa limanda*): fish of the same genus with the plaice and flounder, and much resembling them, but easily distinguished by its more uniform and lighter-brown color, the roughness of its scaly surface, and its more curved lateral line, which rises into a high arch over the pectoral fin. It is common on all sandy parts of the British coasts inhabits deeper water than the flounder, and does not, like it, enter the mouths of streams. It is known on the coasts of the Firth of Forth as the Salt-water Fluke. It is preferred to the flounder for the table. It seldom exceeds 12 inches in length. A rather larger species of the same genus, is the LEMON D. or SMOOTH D. (*P. microcephala*): its body is smooth, its color a pretty mixture of various shades



Dab (*Platessa limanda*).

of reddish-brown and yellow; its head and mouth are very small.

DABBLE: see under **DAB 1**.

DABCHICK, n. *dab chick* [Norw. *daube*—from *dauber*, to dive: Dut. *dobber*, a float]: the little grebe, a bird so named from its constant habit of floating and bobbing under water: see **GREBE**.

DABEOCIA, n. *da-bē-ō'sī-a* [named after St. *Dabeoc*]: in bot., Irish-wort, formerly considered a genus of plants, but now made a sub-genus of *Menziesia*, consisting of a single species, *D. polyfolia*, nat. ord. *Ericaceæ*.

DA CAPO, *dà ká'pō* [It. *da*, from, and *capo*, head, beginning]: in music, a direction be placed at the end of a part or movement, indicating that the performer must return to the beginning of the movement, or to some other part of it usually marked with the sign $\$$, and finish where the word *fine* is placed. Scarlatti was the first who introduced the use of the *da capo* in his opera of *Theodora*. The words are generally abbreviated thus, D. C., sometimes *D. C. al fine*.

DACCA, *dāk'ka*: district in Bengal; n. lat. from 23° 12' to 24° 17', and in e. long. from 90° 11' to 90° 58'; 2,797 sq. m.: (1891) 2,420,656 inhabitants. Forming part of the great delta of the Ganges and Brahmaputra, it is traversed by streams in every direction, being so low and level as to be generally flooded during the rainy season. It is, on this account, admirably adapted to the cultivation of rice. From the character of the country, roads—happily ren-

DACCA—DACE.

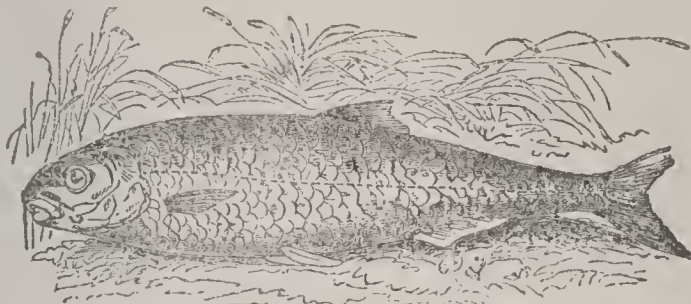
dered less necessary by the network of rivers—are very difficult of construction. In addition to the cap. city of its own name, the district has two principal towns, Narainganj and Islampoor. Though the climate, as a whole, is moist, it is not uniformly so, the annual rainfall varying in different years from 46 to 93 inches. Among commercial crops, cotton—the raw material of the far-famed muslins—formerly was prominent. It is now comparatively neglected, being too short in the staple for the coarse fabrics which are all that are now made in the district. Recent attempts to introduce a better variety from the United States have failed. It was in 1765—the epoch of the cession of Bengal, Bahar, and Orissa on the part of the Great Mogul—that D. became subject to England; but till 1845, the heirs of the native ruler succeeded each other as stipendiaries of the E. India Company.

DACCA: city of Bengal Proper, about 190 m. n.e. of Calcutta; lat. $23^{\circ} 43'$ n., and long. $90^{\circ} 25'$ e. It is on the Burha Gunga, a considerable auxiliary of the Dulaseree, which is itself at once a mingled offset of the Brahmaputra and the Ganges, and an affluent of the lower course of the former stream. The city thus enjoys singular facilities in the way of inland navigation. Till the close of the 18th c., D. was widely noted for the delicate texture of its muslins, which, in the phraseology of the East, were characterized as 'flowing water' and 'evening dew;' and, in connection with this manufacture, the French and the Dutch, as well as the English, had extensive establishments in the place. Since 1801, however, these European agencies have disappeared; while the annual value of the elegant fabric, under the influence of British competition, has gradually fallen from £250,000 to nothing at all. The present aspect of the city is in keeping with this utter decay of its staple trade. In many quarters are ruins overgrown with jungle, haunts of tigers and serpents; and in many cases these are ruins of splendid edifices, such as the residences of its native princes and the factories of its foreign sojourners. Still D., within a space of 4 m. in length by $1\frac{1}{4}$ in breadth, contains a large population. It seems, of late years, to have partially recovered from its commercial decline, and produces lac, dye, soap, cheese, and gold and silver ornaments. Sometimes as many as 300 elephants are for sale in the depots here. There are 180 mosques and 119 pagodas, and places of worship belonging to Roman Catholics, Armenians, Greeks, and English; also a college and several schools. D. is connected with Calcutta by the Eastern Bengal railway. The maximum temperature 1871 was 89° , and the minimum was 54.6° . The rainfall 1871 was 82 inches. Pop. (1881) 79,076; (1891) 83,760; (1901) 90,679.

DACE, n. *dās*, or **DARE**, or **DART** [*F. dard*], (*Leuciscus vulgaris*): small fresh-water fish of the family *Cyprinidæ* (q.v.), and of the same genus with the roach, ide, chub, bleak, minnow, etc. It inhabits usually the deep and clear water of quiet streams. It is found in Italy, France, Ger-

DACELO—DACIA.

many, etc., and in some of the rivers of England, but is very local. In America it is plentiful. It is in form like the roach, but rather more elongated; the mouth rather larger, the scales are smaller. The upper parts are dusky blue, becoming paler on the sides, and passing into white on the belly, the cheek and gill-covers silvery white. The D. is gregarious, and swims in shoals. Its flesh is not highly esteemed. The D. is perhaps the liveliest and most



Dace (*Leuciscus vulgaris*).

active of the *Cyprinidæ*, and affords the angler fair sport both with fly and bait. It is fished for with a light float and a fine gut-line. The float is set so that the bait may almost touch the bottom. At the least symptom of a bite, the angler must strike quickly. The best baits are the red-worm, the tail of a lob-worm, gentles, greaves, and flies or grubs of any kind. The best places to fish with bait are moderately sharp streams, of from two to four or five ft. deep. Dace at times take the fly very freely, and show capital sport. Small red and black palmers will be found the most useful flies for the purpose, and their killing properties will be greatly increased if the hook is tipped with a tough gentle, as D. are very apt to follow the fly without taking it, when the gentle overcomes their scruples; a small piece of the white, tough, inner rind of bacon answers equally well; and even a small piece of wash-leather may be used. Shallows, scours, and by the edge of weed-beds, are the best spots for the fly. D. may be taken also by 'dapping' with the natural fly, and those so taken are usually the finest fish. D. seldom exceed a pound in weight, though in some rivers they have been taken up to $1\frac{1}{2}$ lb. They spawn in the end of April, or early in May, and soon recover their condition again.

DACELO. n. *dǎ'sě-lō* [transposition of *alcedo*, the L. name for the kingfisher (q.v.)]: in *ornith.*, genus of kingfishers, natives of Australia.

DACIA, *dǎ'shī-a*: land of the Daci or Getæ. Its geographical limits were very indefinite until its conquest by the Romans. After that period, it comprised the various countries now known as Eastern Hungary, Transylvania, Bukovina, Moldavia w. of the Pruth, Wallachia, and the Banat of Temesvár. The Getæ came originally from Thrace, and were divided into various tribes. Their course northward can be only imperfectly traced; but we know that, shortly before the time of Alexander the Great (B.C. 335) they had

migrated across the Danube. It is not known when or for what reason the Getæ changed their name to Daci. They seem to have been the most valiant of the Thracian barbarians. Curio, the first Roman general who ever penetrated as far n. as the Danube, did not venture to assail them. Julius Cæsar, however, is said to have intended their subjugation. In B.C. 10, Augustus sent an army up the valley of the Maros. From this time, there was almost continual fighting between the Romans and the Daci, on the whole, to the advantage of the latter, who actually compelled their civilized enemies, in the reign of Domitian, to pay tribute. In A.D. 101, the emperor Trajan crossed the Theiss, and marched into Transylvania, where he fought a great battle near Thorda. The peasants call the battle-field to the present day *Prat de Trajan* (*Pratum Trajani*, field of Trajan). The Daci, who were commanded by their famous chief Decebalus, were defeated. A second expedition of the emperor (A.D. 104) resulted in the destruction of their capital, the death of Decebalus, and the loss of their freedom. Roman colonists were sent into the country, a bridge was built over the Danube—the ruins of which are extant—and three great roads were constructed. In 270–275, the Romans abandoned the country to the Goths, and the colonists were transferred to Mœsia. After a series of vicissitudes, D. fell into the possession of the Magyars in the 9th c.

DACIER, *dă-se-ă'*, ANDRÉ: French author: 1651, Apr. 6—1722, Sep. 18; b. Castres, in Upper Languedoc; of Protestant parentage. He studied at Saumur; and in 1672 came to Paris, where he was employed to bring out an edition of the Latin writer *Festus*, for the use of the dauphin, which he did 1681. In 1683, he married Anne Lefèvre, also Protestant; and two years later, both entered the Rom. Cath. Church. D. subsequently became royal librarian, member of the Académie des Inscriptions, and perpetual sec. of the 'Académie.' D.'s works, besides his *Festus*, are numerous, but of small value.

DACIER, ANNE: 1651–1720, Aug. 17; b. Saumur; wife of André D. After the death of her learned father, who had developed her talent, she came to Paris, where she acquired such reputation by her edition of Callimachus (1674), that the Duke of Montausier commissioned her to edit several of the ancient authors for the use of the dauphin. Similarity of tastes and employment led to a marriage between her and André Dacier. Her domestic duties did not weaken her literary ardor. Besides editing various of the classics, she translated the comedies of Terence; several plays of Plautus, with an able dissertation; and portions of Anacreon, Sappho, and Aristophanes. Her admiration of Homer was unbounded, and involved her in two learned controversies.

DACNE, n. *dăk-nē* [Gr. *daknō*, I bite, I sting]: in entom., genus of coleoptera, belonging to the family *Clavicornes*.

DACNIS, n. *dăk'nīs* [Gr. *daknō*, I bite]: genus of birds belonging to the family *Conirosters* (q. v.). The forehead, shoulders, and wings are sky-blue, the tail black. They are natives of Mexico.

DACOIT--DACTYLIUM.

DACOIT, n. *dāk'oyt*; DACOITY, n. *dă-koy'ti*: see DAKOIT.

DACOITS', or DAKO'TAH INDIANS: see SIOUX: INDIANS.

DACRYDIUM, *da-krid'i-ŭm*: genus of trees of the nat. ord. *Taxaceæ*, having male and female flowers on separate trees. The species are lofty trees, natives chiefly of Australia and New Zealand. *D. Franklinii* is called HUON PINE, though rather a yew than a pine. Its timber is harder than any Baltic pine, and is excellent for spars for naval purposes. *D. taxifolium*, the Kakaterre Tree of New Zealand, attains a height of 200 ft., and is very valuable for timber. A beverage resembling spruce-beer is made from its branches.

DACRYOLITE, n. *dāk'rī-o-lit* [Gr. *dakru*, a tear; *lithos*, a stone]: in *med.*, a calculous concretion in the lachrymal passage.

DACRYOMA, n. *dāk-rī-ō'ma* [Gr. *dakruo*, I weep—from *dakru*, a tear]: a diseased condition of the lachrymal duct of the eye, by which the tears are prevented from passing into the nose, and consequently trickle over the cheek.

DACTYL, n. *dāk'til* [Gr. *daktŭlos*; L. *dac'tylus*, a finger]: name of a measure or 'foot' in Greek and Latin versification, consisting of three syllables, one long and two short, as in the word *dŭālist*. It was so called from its resemblance to the finger, which consists of three joints—one long and two short. The name is sometimes applied to a trisyllabic measure in English verse, consisting of one accented syllable and two unaccented syllables, as in *déstiny*: see VERSE. DACTYL, the razor-fish: see SOLEN. DACTYL'IC, a. *-ik*, relating to or consisting of dactyls; dactylic verses consist of dactyls and equivalent feet: see HEXAMETER. DAC'TYLIST, n. one who writes flowing dactylic verse. DACTYL'OLYPH, n. *-ō-glif* [Gr. *glupho*, I engrave]: the name of the artist inscribed on a finger-ring or gem. DAC'TYLOG'RAPHY, n. *-tīl-ōg'rā fī* [Gr. *grapho*, I write]: the art of gem-engraving. DAC'TYLOL'OGY, n. *-tīl-ōl'ō-jī* [Gr. *logos*, discourse]: the art of communicating ideas by certain movements and positions of the fingers: see DEAF AND DUMB. DACTYLION, n. *-ī-ōn*, in *surg.*, cohesion between two fingers, whether congenital or from burning; in *mus.*, an instrument invented by Henry Herz for training the fingers and suppling the joints: see CHIROPLOAST.

DACTYLETHRA, n. *dāk-tīl-ēth'ra* [Gr. *daktulos*, a finger; *etheira*, hair]: genus of amphibians natives of s. Africa, the only one of the family *Dactylethridæ*. It contains two species. They are remarkable for having the three inner toes enveloped in a sharp-pointed claw or nail.

DACTYLI, n. plu. *dāk'tīl-ī* [Gr. *daktulos*, a finger]: the priests of Cybele in Phrygia, so called from having been five in number, corresponding with the number of fingers on the hand.

DAC'TYLIS: see COCK'S-FOOT GRASS.

DACTYLIUM, n. *dāk-tīl'i-ŭm* [Gr. *daktulos*, a finger]:

DACTYLOPORA—DÆDALIAN.

genus of hyphomycetous fungi, consisting of molds growing over decayed plants. One species, *Dactylium oogenum*, grows upon the surface of the membrane within the shell of the eggs of fowls and other birds.

DACTYLOPORA, n. *dák-tĭl-o-pōr'a*, or DACTYLIPOR'A, -ĭ-pōr'a [L. *dactylus*; Gr. *daktulos*, a finger, and L. *porus*; Gr. *poros*, a passage]: genus typical of the *Dactyloporidæ*, a family of imperforate foraminifera, sub-tribe *Miliolida*.

DACTYLOP'TERUS: see FLYING GURNARD.

DACTYLORHIZA, n. *dăk-tĭl-o rĭ'za* [Gr. *daktulos*, a finger; *rhiza*, a root]: disease in the bulbs of turnips, causing them to branch out and become hard and useless. It is commonly called Fingers-and-Toes.

DAD, n. *dăd*, or DADDY, n. *dăd'dĭ* [W. *tad*; Gael. *taid*; Ir. *daid*; Lap. *dadda*, a father]: in *children's language*, name for a father; in familiar use among the less refined of many countries.

DAD, n. *dăd*, or DAWD, n. *dawd* [an imitation representing the sound of a blow]: a blow; a thump: V. to slam, as, 'he dadded to the door.' DAD'DING, imp. DADDED, pp. *dăd'əd*.

DADE, v. *dăd* [imitative of the syllables *da*, *da*, the incoherent utterances which accompany the muscular exertions of an infant: F. *dada*, a hobby-horse]: to teach a child to walk; to hold up a child by leading-strings while attempting to walk. DA'DING, imp. DA'DED, pp. DADING-STRINGS, leading-strings by which a child is held up while learning to walk. DADDLE, v. *dăd'l*, or DAIDLE, v. *dă'dl*, [Scot.]: to walk unsteadily like a child; to waddle like a duck; to do anything imperfectly; to trifle. DADDLING, imp. *dăd'lĭng*. DAIDLING, imp. *dăd'lĭng*. DADDLED, pp. *dăd'ld*. DAIDLED, pp. *dăd'ld*.

DADO, n. *dă'dō* [It. *dado*, a cube or die for playing with]: in classical *arch.*, the cubic block which forms the body of a pedestal. It is also applied to the plane face and the series of moldings which, in the interiors of buildings, form, as it were, a continuous pedestal. The interior D., often called wainscot, is formed of wood, and, running round the bottom of the walls of a room, serves to protect the plaster or paper from injury. It is generally about three ft. in height, and surmounted by a narrow cornice. It is sometimes imitated in paper.

DADUR, *dă-dŭr'*: town of Beloochistan, five m. e. of the Bolan Pass. Though it is in the 30th degree of n. lat., yet it is said to be one of the hottest places in the world. It contains about 3,000 inhabitants. It is worthy of notice chiefly as the spot where, 1840, Nov., the British troops routed a Kelat force. The neighborhood yields grains of various kinds, pulse, cotton, sugar, madder, and fruits. Pop. of D. abt. 3,000.

DÆDALENCHYMA, n. *dē'dă-lĕng'kĭ-mă* [Gr. *daidalēōs*, skilfully wrought, variegated; *engchuma*, an infusion, tissue]: tissue composed of entangled cells, as in some fungi.

DÆDALIAN, a. *dē-dă'ĭ-ăn*. [L. *dadālus*, artificial, skil-

ful—from Gr. *Daidalos*; L. *Dædalus*, a renowned Athenian artificer]: formed with art; displaying artistic skill; intricate. DÆDALOUS, a. *dē'dā-lūs*, in *bot.*, irregularly jagged, as the broad apex of a leaf; having a variegated or winding border.

DÆDALUS, *dē'dā-lūs*, in Greek Mythology: descendant from the old Athenian race of kings, the Erechtheidæ; contemporary of Theseus and Minos. He was famous as an artist and mechanic. Among his numberless works were the Cretan labyrinth, the Colymbethra or reservoir, near Megaris in Sicily, the temples of Apollo at Capua and Cumæ, that of Artemis Britomartis in Crete, and an altar sculptured with lions on the Libyan coast. His mechanical genius is clearly celebrated in the poetic fiction of his flying safely over the Ægean by wings which he had himself made. D. got the credit among the Greeks of having invented carpentry, and most of its tools, such as the saw, the ax, the plumb-line, the gimlet, as also glue. The history of D. is obviously a myth, wherein, as recent criticism has conclusively shown, is embodied that epoch in which the first rude forms of art were thrown aside, and a higher skill and intelligence brought into action.

DÆFECATE: see DEFECATE.

DÆMONOROPS, n. *dē-mŏn-ŏr'ŏps* [Gr. *daimŏn*, a god or demon; *horaŏ*, I see (?); *ŏps*, the face (?)]: genus of palms, tribe *Calameæ*. *Dæmonorops draco* is the Dragon's-blood Palm.

DAENDELS, *dān'dēls*, HERMANN WILHELM: 1762–1818, June; b. Hattem, Gueldres: Dutch general. He took part in the revolutionary disturbances in Holland 1787, and was compelled to seek refuge in France. In the campaign of 1793, he rendered important service to Dumourier, and was elevated to the rank of a gen. of brigade. In 1799, he commanded one of the two divisions of the republican army, which, with a third corps under the orders of General Brune, compelled the Anglo-Russian forces to surrender. He left the service 1803, but in 1806 he was re-instated in his former rank by the king of Holland. He conquered E. Friesland, and was made gov.gen. of Münster, commander-in-chief of the Dutch cavalry, marshal of Holland, and gov.gen. of the Dutch E. Indian possessions. This last office he held 1808–11. He published a work on his administration in Java, which was an important contribution to European knowledge of that island. On the overthrow of Napoleon, his services were secured by the new king of Holland, Wilhelm I., who intrusted him with the organization of government in those colonies on the coast of Africa which had been restored to the Dutch.

DAFF, v. *dāf* [*do*, and *aft*, after: formed as *doff* = do off, and *don* = do on]: in *OE.*, to throw back or toss aside; to make sport; to toy. DAFF'ING, imp. DAFFED, pp. *dāft*. DAFFIN, n. *dāf'in*, or DAF'FING, n. merriment; foolery; excessive diversion; a dallying; a toying.

DAFFODIL, n. *dāf'ŏ dīl* [F. *asphodèle*; OF. *asphodile*—from Gr. *asphodēlos*]: also the corrupted forms DAF'FO-

DAFILA—DAGHESTAN.

DIL'LY, n. -*dīl'li*, and **DAF'FODOWNDIL'LY**, n. -*down-dīl'li*: name of those species of *Narcissus* (q. v.) which have a large bell shaped corona. The common D. (*N. pseudo-narcissus*) is a native of most parts of Europe, growing in woods and hedges. All the other species are more southerly, abounding in the countries near the Mediterranean. Some of them, as *N. Minor*, have become naturalized in more northerly countries, as ornaments of gardens, in which double-flowered varieties are also cultivated. They are favorites, not so much for their beauty, which is not of the most delicate kind, as for their large yellow flowers in early spring. The bulbs are purgative and emetic. The mode of cultivation is the same as for other species of *Narcissus*.

DAFILA, n. *dāf'il-a*: genus of *Anatidæ*, comprising the pintail ducks.

DAFT, a. *dāft* [Gael. *daibhte*, excited with drink]: in *Scot.*, insane; stupid; foolish.

DAG, n. *däg* [imitative of the noise of a blow with something sharp: F. *dague*: It. *daga*, a dagger]: a thick clumsy pistol, the original pistol, used in the 15th and 16th c. In the *Spanish Tragedy*, 1603, one of the characters shoots the dag. **DAGGER**, n. *däg'gër* [W. *dagr*; Ir. *daigear*, a dagger]: a poniard; weapon resembling a sword, but considerably smaller, being used for stabbing at close quarters; generally two-edged, and very sharp toward the point. Originally, it had no guard for the hand, and was worn at the girdle in a sheath. It is now a general military weapon.—The sign of the Dagger, in *printing*, is used as a mark of reference—thus (†): V. to pierce or stab with a dagger. To **LOOK DAGGERS**, to look fiercely or reproachfully. **DAGGERS DRAWN**, at enmity.

DAGGETT, *däg'gèt*, **NAPHTALI**, D.D.: 1727, Sep. 8.—1780, Nov. 25; b. Attleborough, Mass.: Presb. and Congl. minister. He graduated at Yale College 1748, was ordained pastor of the Presb. Church, Smithtown, L. I., 1751, became prof. of divinity in Yale College 1755, and held the office till death; also served as pres. *pro tem.* of the college 1766-7. He took part in the defense of New Haven against the British 1779, July, was captured, and forced by bayonet thrusts to act as guide for them. He published an account of the British occupation, 1780.

DAGGLE, v. *däg'l* [OE. *dag*, a jag or shred: Fin. *takku*, a shaggy fleece: Sw. *dagg*, dew; *dagga*, to bedew: Icel. *döggra*, to bedew]: to trail in the dirt; to hang in wet dirty dags or jags, as the wool at a sheep's tail. **DAG'GLING**, imp. **DAGGLED**, pp. *däg'ld*, trailed in mud or foul water; befouled. **DAG'LOCK**, n. a lock of wool on a sheep that hangs and drags in the wet. **DAGSWAIN**, a coarse woolen blanket. **DAGGLE-TAILED**, -*täld*, bemired or bespattered behind with mud or water.

DAGHESTAN, *dâ-gës-tân'* [Tartar, *Tagh stan*, signifying mountainous country]: province of Asiatic Russia (called also Derbend), between the Caucasus and the w. coast of the Caspian Sea; about 10,000 sq. m. The surface is generally mountainous, traversed by offsets from the

Caucasus, but there are valleys and level tracts of great fertility. The inhabitants are chiefly Lesghians (fanatical Mohammedans). Until 1812, the country belonged to Persia. Since its annexation by Russia, the Lesghians have fought desperately for independence (see SHAMYL: CAUCASUS). Chief town is Derbend (q.v.). Pop. of province (1890) 597,356; (1897) 586,636.

DAGO, *dā'go*: island in the Baltic sea, part of the Russian govt. of Esthonia; near the entrance of the Gulf of Finland. The narrow channel called Sele-sund separates it from the island of Oesel on the south. Its length is estimated about 34 m., breadth 15 miles. The soil, a mixture of sand and chalk for the most part, is not fertile, the coasts are rocky, and shoals make navigation dangerous. The people, Esthonians mostly, are employed in fishing and cattle-rearing. Pop. abt. 10,000.

DAGODA, n. *dāg'ō-bā*, or DAGHODA [according to Wilson, from *deha*, the body, and *gopa*, what possesses, because it contains the hair, teeth, etc., of Buddha; according to others, from *dhatu*, a relic, and *gabba*, a shrine]: monumental structure frequent in the East, containing relics of Buddha; its usual form is a hemispherical dome of earth or stone, with a small cross erection on its top called a *tee*. Dagoba seems the Singhalese term for such monuments; but the more general name is Stupa or Tope (q.v.).

DAGON, n. *dā'gōn* [Heb. *dag*, a fish]: national idol of the Philistines; frequently mentioned in Scripture; in profane history, the name by which it is known is Derceto.



Dagon.

It is always represented on ancient medals as half-fish, half-woman, but the Hebrew writer or writers speak of it as a masculine being. Some scholars have attempted to show that the word D. comes from the Phœnician *dagan*, wheat; and that it is not the name of a fish-god, but of a god of agriculture. It is possible, however, to combine both notions, by supposing that D. was a deified mortal who had come in a ship to the coast, and taught the people

agriculture and other useful arts. Ancient history abounds with such mythological personages, one of whom was called by the Babylonians *Odakon*, and is regarded by the learned Selden as identical with the fishy idol of the Philistines.

DAGUERRE, *dā-gūr'*, LOUIS JACQUES MANDÉ: 1789-1851, July 12; b. Cormeilles, France: inventor. He went to Paris at an early age and became a successful scenic painter, then assisted Prevost in painting large panoramas of the great European cities, and while so engaged invented the diorama by which he imitated the changes of the day and season by throwing colored lights and shadows on his paintings. In 1826, he and Joseph Nicéphore Niepce

began experimenting to discover a means of securing true copies of objects by the sun's chemical action. The latter obtained a process 1829; both strove to perfect it, Niepce died 1833, D. made further improvements, and the perfection of the invention was announced to the French Acad. of Sciences 1839, Jan. The govt. granted an annuity of 6,000 fr. to D. and 4,000 fr. to Niepce's son on their making the invention public, and also made D. an officer of the Legion of Honor. The Daguerreotype, named from him, was the first successful application of the principle since largely developed in photography (q.v.).

DAGUERREOTYPE, n. *dā-gēr'ō-tīp* [from *M. Daguerre* of Paris, the inventor, and *type*]: painting or portrait on metal formed by the decomposition of silver iodide by means of sunlight—the original photographic process, 1839. Notwithstanding that it has now become so unpopular, because of the very feature which gives such perfection to the result—viz, the polish of the plate—this process yields to none in microscopic perfection of detail and perfect gradation of shade. D. pictures are positive or direct, as given in the camera, though they appear also as negative when viewed at certain angles, and are the result of the successive action of the vapors of iodine, bromine, and mercury upon a highly polished surface of chemically pure silver. The manipulations in the process are: 1. Cleaning and polishing the plate; 2. Rendering the plate sensitive; 3. Exposing it in the camera; 4. Developing the latent image; 5. Fixing the picture.

A copper plate of moderate thickness is coated with silver by the electrotype or other suitable method, and then polished to the utmost possible degree, so as to obtain, though by mechanical means, a chemically pure surface; it is then exposed first to the vapor of iodine, then to the vapor of bromine for a period, ascertained in practice by watching the beautiful succession of prismatic colors which begin to appear with the first contact of the vapor. The length of exposure in the camera which follows is determined by the amount of light at the time of operating, and the relation between the diameter and focal length of the lens employed. The development of the latent image, which is the next operation, is effected by exposing the plate in a suitable box to the vapor of mercury, which attaches itself to the various parts of the picture in proportion to the more or less intense action of the light. Those portions of iodide and bromide of silver unacted on by light are next removed by immersing the plate in a solution of hyposulphite of soda; and the picture is subsequently fixed and intensified by pouring over its surface a solution of hyposulphite of gold, and applying heat; by which means it is coated with a thin film of metallic gold, and thereby rendered so permanent that it cannot be rubbed out by ordinary means, but requires a chemical solvent for its removal. Though M. Daguerre published, 1839, the first *practicable* process for taking pictures by the agency of light, his experiments seem to have been suggested by the researches of M. Niepce, who, 1820, obtained impressions on silver plates rendered

DAGUPAN—DAHLIA.

sensitive by exposure to the vapors of sulphur and phosphorus. See PHOTOGRAPHY.

DAGUPAN: a town of Luzon, Philippine Islands, where the Lingayen river enters the gulf of the same name; about 130 miles n.w. of Manila. After the outbreak of hostilities between the insurgents and the United States the military authorities of the latter determined to make Dagupan a base of operations. In 1899, Nov., the Americans drove the insurgents out of D. and then started on their memorable march to Aguinaldo's headquarters, at Tarlac. Pop. 16,000.

DAHL, *dál*, JOHANN CHRISTIAN CLAUSEN: Norwegian landscape painter: 1788, Feb. 24—1857, Oct. 14; b. Bergen. He was at first intended for the priesthood, but turned to art. He studied painting for six years under the direction of Prof. J. G. Moller. His first attempts were in *genre* and miniature. Public attention was drawn by a work which he exhibited in Dresden 1819, *Cascade among Rocks in Norway*. Next year, he went to Italy, where Thorwaldsen and the Prussian consul-general, Bartholdy, commissioned him to execute several works. In 1821, he was appointed prof. of painting at Dresden.

DAHLGREN, *dál'grën*, JOHN ADOLPH, U.S.N.: 1809, Nov. 13—1870, July 12; b. Philadelphia. He entered the U. S. navy as midshipman 1826, Feb. 1; was made passed midshipman 1832; commissioned lieut. 1837; commander 1855; capt. 1862, July 16; and rear-admiral 1863, Feb. 7. He became commandant of the Washington navy-yard 1861, Apr. 22; chief of bureau of ordnance 1862; commander-in-chief of the S. Atlantic blockading squadron 1863, July 6: in conjunction with Gen. Gilmore took possession of Morris Island, silenced Fort Sumter, and occupied Charleston harbor 1863; appointed commander-in-chief of the S. Pacific squadron 1866; chief of ordnance 1868; and commandant of the Washington navy-yard 1870.

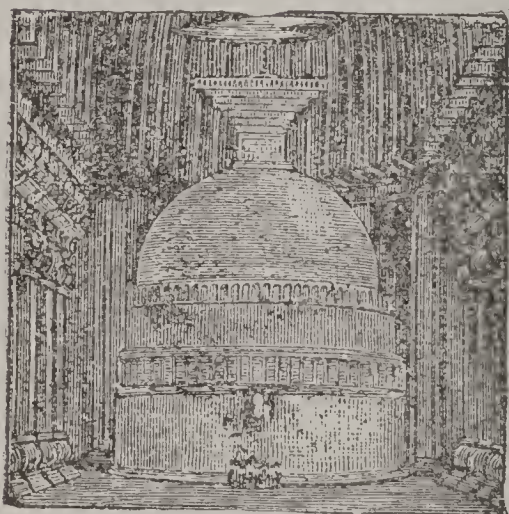
DAHLGREN, ULRIC, U.S.A.: 1842—1864, Mar. 4; b. Bucks co., Penn.; son of Rear-Admiral D. He studied civil engineering and law; placed and took charge of a naval battery on Maryland Heights after the first battle of Bull Run, by his father's order; was Gen. Sigel's chief of artillery at the second battle of Bull Run; was aide to Gens. Sigel, Burnside, Hooker, and Meade; lost a leg at Hagerstown, Md., 1863, July, and was killed in a raid of his own planning to release the Union prisoners in Richmond. This gallant young officer's early death was recognized as a great loss to the army.

DAHLGREN GUN [named after Admiral John A. Dahlgren, U. S. navy]: a piece of large ordnance, the result of a careful series of experiments. One peculiarity consists in having relatively less metal in front of the trunnions, and more behind, than had been customary. Dahlgren guns, made to fire shells or hollow shot, have been largely introduced into the United States navy.

DAHLIA, n. *dāl'li-ă* or *dāl'ya*: genus of large perennial herbaceous plants of the nat. ord. *Compositæ*, sub-order



Various Forms of Daggers.



Dagoba.



Ceylonese Dagoba.



Section of Dahlgren Gun.

DAHLIA-PAPER-DAHLMANN.

Corymbifera, natives of Mexico. All the varieties in cultivation, of which not fewer than 2,000 have been carefully enumerated, are derived from two species, *D. variabilis* and *D. coccinea*, chiefly from the former. Few plants manifest so strong an inclination to sport and produce new varieties as the *D.*, and florists have obtained many also by the artificial fecundation of one with the pollen of another. Dahlias were first brought to Madrid by Spanish botanists in 1789, and were soon introduced into England, but did not become well known in English flower-gardens till about 30 years afterward. The name was given in honor of Dahl, a Swedish botanist; but because another genus of plants had received the same name, an attempt was made to change it to *Georgina*, which is sometimes used on the continent, but *D.* universally prevails both popularly and among botanists in Britain and America. Among the essential characteristics of a fine *D.*, according to florists, are a fulness of the flower, a perfect regularity in the shape of the florets, and the absence of an eye or disk; the florets of the disk, as in other 'double' *Corymbifera*, having assumed the appearance of florets of the ray. Dahlias have tuberous roots, which contain considerable Dahline, or *Inulin* (q.v.), and are in use as food in Mexico. It was at one time attempted to introduce them into cultivation in Europe for the food either of man or of cattle; but the taste is nauseous to European palates, and even cattle do not readily eat them. Dahlias are liable in northern countries to be cut down by early frosts, in the very midst of their flowering; and their tubers require to be taken up for the winter, and stored in a dry place out of the reach of frost till spring. They are propagated by seed, by cuttings, and by tubers. The finer varieties are sometimes grafted on ordinary stocks.

DAHLIA-PAPER, a kind of paper made for the production of artificial flowers, especially dahlias.

DAHLMANN, *dál'mán*, FRIEDRICH CHRISTOPH: prof. of history and political science in the Univ. of Bonn: 1785, May 17--1860, Dec. 5; b. Wismar. His earlier studies in Copenhagen and Halle were in archeology and philology; but his attention was subsequently directed to the study of politics and the history of the middle ages. The results appeared in his *Vita Ansgarii*, his *Researches in German History* (2 vols. Altona 1822-3), his edition of the *Dithmarsh Chronicle* (Kiel 1827), and other works. In 1829, D. was appointed prof. of political science in Göttingen, where he published (1830) his valuable work on the *Sources of German History*. Banished 1837, by King Ernest of Hanover, on account of his protest against the abolition of the Hanoverian constitution, he went to Leipsic and Jena, where he wrote his historical masterpiece, *History of Denmark* (3 vols. Hamburg 1840-43). In 1842, he became prof. of history at Bonn, and was prominent in the political affairs of Germany after the movement in 1848, heading the constitutional liberals, who were unfortunately too reasonable to be successful.

DAHOMEY—DAHRA.

DAHOMEY, *dâ-hô' mû*: negro kingdom under French protection, of Guinea, w. Africa, extending along the coast from the British colony of Lagos on the e. to the German colony of Togo on the w. Its limits have not been precisely defined, but it is usually regarded as extending back to the Kong Mountains. It will thus lie between lat. 6° — $8^{\circ} 50'$ n., and long $1^{\circ} 30'$ — 3° e.; its breadth about 200, and its length 90 m. D. is for the most part a vast plain, rising with gentle ascent from the sea toward the Kong Mountains, with offsets of which it is traversed in its most northerly parts. Though it has no river of any importance, it is well watered by springs and streams; and the soil, a rich, red-colored clay, is extremely fertile. Magnificent trees clothe the hills in the north, and corn, beans, and peas grow in splendid luxuriance on the plains, as well as yams, potatoes, melons, limes, oranges, pine-apples, and other tropical fruits: cotton, sugar, tobacco, and indigo also are raised. The scenery is described as exceedingly varied and beautiful. Lions, tigers, elephants, hyenas, and enormous snakes of the boa kind abound. The Dahomans, who came into possession of this tract of country about the beginning of the 18th c., are for the most part tall, well-formed, and intelligent, and, for an African race, singularly honest, and far advanced in agriculture. With the exception of a few Mohammedans, whose religious belief is in no way interfered with, they all are pagans, and practice fetish-worship; and, until they were restrained by civilized nations, human sacrifices formed the chief feature of state ceremonies, 500 being commonly killed at the accession of a king. The king's army is noted for the presence in it of a body of Amazons who make very effective soldiers but are exceedingly ferocious. The brunt of the war with France 1889–93 was borne by the 2,500 Amazons, whose courage and cruelty seemed boundless. French interests in D. date from the first treaty. July 1, 1851, ceding to France a small piece of land surrounding a trading fort established the previous year. Treaties in 1868 and 1878 enlarged the French rights. By agreement with Germany, England, and Portugal, 1889, D. was acknowledged as being within the French 'sphere of influence.' King Gle Gle began war against France in 1889, which, with short intermissions, continued till the capture of his successor Benezin in Jan. 25, 1894. Another king, Guthili, was chosen, and the country has now become practically a French colony. Pop. about 250,000. See Forbes's *Dahomey and the Dahomans* (1851); Burton's *Mission to Gelele, King of Dahomey* (1864); Skertchly's *Dahomey As It Is* (1874); J. S. Keltie's *The Partition of Africa* (1893).

DAHRA, *dâ'rá*: district of Algeria, formerly inhabited by the Ouled-Riahs, a Kabyle tribe. It has acquired a melancholy celebrity as the scene of a frightful massacre by the French, 1845, June. The district contains immense caverns. In these the Ouled-Riahs, hotly pursued by the French under Col. (afterward Marshal) Pelissier, took refuge. They were ordered to surrender their arms and horses, and were promised, in return, life and liberty. On their refusal, fascines were made up, kindled, and placed

at the entrance of the caves. Thrice Col. Pelissier sent a flag of truce, exhorting the imprisoned Kabyles to accept his terms, but in vain—the last messenger being received with a discharge of musketry. The fire was therefore again kindled in all its intensity, and gradually the cries of agony from the interior of the caverns ceased, until nothing broke the dead silence but the occasional crackling of the green wood of which the fascines consisted. When the caverns were examined, about 600 dead bodies were found scattered here and there; but it was calculated that in all (including those who afterward died and those who could not be got at) about 800 had been suffocated by smoke, or gored to death by the maddened cattle whom they had brought with them into their fatal asylum. The news caused a great sensation in Paris. Marshal Soult, minister of war, formally condemned the deed; but Marshal Bugeaud, gov. of Algeria, affirmed that Pelissier had only acted under positive orders.

DAILY, a. *dā'īl'*: see under DAY.

DAIMIEL, *dā-mē-ēl'*: town of Spain, province of Ciudad Real, 20 m. e.n.e. of the city of Ciudad Real. It is moderately well built; it has several squares, and its principal streets, though unpaved, are wide and comparatively clean. Its chief buildings are the churches of San Pedro and Santa Maria—the former a Doric, and the latter a Gothic, structure—a town-hall, and a hospital. D. is environed by fine public walks and gardens, and has manufactures of woolens, linen, blonde lace, etc. Pop. 10,000.

DAIMIO, *dā'mī-ō*: official title of the ancient feudal lords or princes of Japan. They had almost sovereign power in their respective provinces; but they have in recent years been fully reduced under the authority of the emperor. See JAPAN.

DAINTY, a. *dān'tī* [W. *dain*, fine, delicate: comp. Gael. *deanta*, perfectly formed, complete: Bav. *däntsch*, a delicacy (see DANDY)—*lit.*, so perfect in qualities as to delight one of the senses]: pleasing to the taste; delicious; delicate; effeminately beautiful; affectedly particular as to food; over-nice: N. something nice or pleasing to the taste or other sense; a delicacy; a term of endearment. DAIN'TINESS, n. *-nēs*, nicety in taste; the being very fastidious to please; delicacy. DAIN'TILY, ad. *-lī*, in an over-nice fastidious manner. *Note.*—Skeat says DAIN'TY is from OF. *daintie*, agreeableness—from L. *dignitatem*, dignity; worth.

DAIR-EL-KAMAR, *dār-ēl-kām'ar*, or DEIR-EL-KAMR, *dār-ēl kām'r*: town in Syria, cap. of the Druses; about 13 m. s.s.e. of Beyrout. It is on the edge of a deep and picturesque glen of Mount Lebanon, the banks of which and the slopes above are richly clad with mulberries, olives, and vines, cultivated in terraces by an exceedingly industrious population. On the opposite side of the glen stand the ruins of the palace Bteddîn, formerly the residence of Emîr Beshîr, who, for more than half a century, 1788-1840, ruled over the Lebanon with a strong but impartial hand. Pop. of D. abt. 8,000.

DAIRY.

DAIRY, n. *dā'rĭ* [OE. *dey*, a female servant whose duty was to make cheese and butter, etc.; *deyry*, the place for carrying on her work: Icel. *deigja*; Sw. *deja*, a dairymaid: comp. Gael. *dair-thigh* = *dair-igh*, the building where cattle were protected and attended to—from *dair*, the breeding of cattle; *tigh*, a house; the old word *dey* (above) is probably allied to *dug*, a teat, and to Lat. *duc-*, to draw or to milk; in Polish, *doic* is to milk]: primarily the place in which milk is kept and made into butter and cheese, but in its wider and common signification including all that pertains to the production and management of milk on a farm. **DAIRYMAID**, n. a female servant engaged in the management of milk and its products. **DAIRYMAN**, n. a man who keeps cows and sells milk. **DAIRY-FARM**, a farm which depends almost wholly upon its cattle, and their milk. *Note*.—Skeat says, the older sense of **DAIRY** is kneader of dough, or baker-woman—from Icel. *deig*; Sw. *deg*, dough; the same maid attending the bread-baking and the milking.

In the United States the dairy business is an interest of rapidly increasing magnitude. It is estimated by the department of agriculture that there were, 1903, Jan. 1, over seventeen million milch cows on farms. In towns and villages, from one to two million cows are constantly kept for production of milk. At the extremely low estimate of 350 gals. av. annual yield per cow we have nearly six billion gals. of milk produced in this country every year. A little more than one-half is made into butter, more than one-third used as food, and nearly half a billion gals. are converted into cheese. Annual value of dairy products of the country far exceeds that of its enormous wheat crop, and in 1886 reached the grand total of \$380,000,000. In 1900 the U. S. census reported 9,351 establishments for manufacture of butter, cheese, and condensed milk, with \$36,491,799 capital and an annual production valued at \$131,183,338.

Certain regions are much more favorable to dairying than others, but with skilful management and the use of improved methods the business can be successfully conducted in nearly all parts of the country. The section which, on account of its peculiar natural advantages, has been called the 'dairy belt' of the United States lies between the 40th and 45th parallels of latitude, extending from the Atlantic to the Mississippi and possibly as far west as the Pacific. Of this immense tract about one-third is specially adapted to dairy purposes. Among the requirements of a fine dairy region are a rich soil with good drainage, sweet and nutritious grass, and pure water in abundance. But land not specially adapted to the purpose can often be improved, fine varieties of grass can be introduced, and by skilful treatment many natural defects can be remedied. Improved methods of keeping milk and securing cream have greatly reduced the risks of the business, enlarged the area in which dairying can readily be made successful, and by causing improvement in the quality of the products has largely increased the profits. The dairy business is conducted not only as a separate industry, but also

largely in connection with general farming. This is an advantageous method, as the materials for feeding cows can be grown by the farmer more economically than they can be purchased, while the manure can be profitably used in the production of crops for maintaining the animals. Winter dairying can be very easily and profitably carried on with general farming, as a large proportion of the work required in the dairy can be done when little else can be done on the farm.

The breeds of cows especially valuable for dairy purposes are the Holstein-Friesian, Ayrshire, Jersey, and Guernsey. But there are others, as the Dutch Belted cows, the Devon, Alderney, Swiss, and some families of Shorthorns, which have many admirers and by some are considered superior to those generally regarded as the pure dairy breeds. Among the so-called 'natives,' descended from an excellent class of cows imported from Europe early in the history of this country, there are large numbers of cows which have been carefully bred for their milking qualities and are profitable for the dairy. Classed with the native stock are many thousands of grades of the improved breeds which are excellent milkers and which are nearly as sure as the thorough-breds to transmit their good qualities to their offspring. In point of numbers the native stock overwhelmingly predominates. Careful estimates based on the registration of the principal breeds indicate that the whole number of pure-bred cattle in the country is only about two hundred thousand. Of these the herd-books show that nearly one-third are bulls. Of the improved breeds the Holstein-Friesian greatly exceeds all others in the quantity of milk produced and is well adapted to the farms where cows are valued not merely for their milk but also for their capacity for making beef when their usefulness as milkers has ceased. The Ayrshires are excellent milkers and are valuable to cross with native stock. The milk of these breeds is superior for the production of cheese. The Jersey and Guernsey cows are noted for the high quality rather than the large quantity of their milk and are unexcelled for the production of butter as regards both quantity and quality.

The yield of milk varies greatly with the different breeds and with animals of the same breed. It is claimed that there are herds of Holstein-Friesian cows which give an average yield of 18,000 lbs. of milk yearly. Many Ayrshire herds give a yearly average of 5,000 to 8,000 lbs. per cow. Some of the best native cows yield from 4,000 to 5,000 lbs. yearly, but such instances are extremely rare. There are many herds in the fine dairy regions of New York which, according to the cheese-factory reports, yield little more than 3,500 lbs. of milk per cow in a year, while in less favorable sections a much smaller average yield is obtained. Such herds are unprofitable. The animals of which they are composed should be carefully tested, the poorer ones converted into beef at the earliest opportunity, and their places supplied with more productive cows. A much larger proportion of unprofitable cows is found

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among the native stock than among the pure breeds, but there are occasional instances among the latter of wide departure from the ordinary type. It sometimes, though rarely, occurs that extremely poor milkers are found in the very best dairy breeds.

Success in the dairy business largely depends upon the selection of the cows. Even with the most perfect appliances and the best possible management a dairy in which a large proportion of the cows are poor milkers cannot be made a financial success. The cost of maintaining a cow which yields only 3,000 lbs. of milk annually is nearly and in some cases quite equal to that for a cow giving from 5,000 to 6,000 lbs., and the labor of caring for the animals is the same. Yet in the older sections of the country, where the dairy business has reached its highest development, it is estimated by careful observers that at least one-third of the cows do no more than pay the actual expense of keeping them. In less favorable locations the proportion of unprofitable cows is considerably larger. To the low productive capacity of a large part of the stock of dairy farmers may be attributed a large share of the losses of which many of them complain. The remedy lies in increasing the average yield of their cows. While an immediate change in the character of their stock cannot be made without great expense, a gradual, but rapid, improvement may easily be effected. The weeding out of the poorer cows, whether thorough-breds, grades, or natives, and the rearing of the most promising calves from the best milking stock, together with higher feeding and better care of the animals which are retained, will speedily and largely increase the yield and greatly improve the quality of the milk.

If superior cows are to be secured a large proportion of them must be raised on the farm. The best cows are seldom sold, and when they are in the market the price is usually so high that the average farmer or dairyman cannot purchase them. But by taking his best cows to a thorough-bred bull, of the breed which seems best adapted to his special purpose, raising the heifer calves, feeding them liberally and caring for them in the best manner, the owner of a herd can in a few years obtain a fine and profitable lot of cows. But a rigid selection should be made and only the best of the heifers should be retained. The inferior ones should be converted into beef as soon as possible after their unfitness for the dairy has been demonstrated.

While good cows of different breeds will lack resemblance and will present the distinguishing marks of the particular race to which they belong, there are some peculiarities of form and feature common to all good milkers and indicating with considerable certainty their value for milk production. The principal of these points are a small head, dishing face, small and tapering horns, mild bright eyes, small thin neck, and light fore-quarters. The chest and hips should be broad and the abdomen large, indicating well developed heart and lungs and vigorous digestive

organs; the back long and straight; the skin soft, loose and, particularly on the udder and the inside of the ears, of a yellow tinge; the tail small, and the hair soft and fine. The udder should be large; the teats set wide apart, and both the winding veins around the udder and the 'milk veins' passing from the udder forward and into the abdomen (which indicate the quantity of blood which circulates in the milk glands and from which the milk is secreted), should be very prominent. The larger the number of these points and the more clearly they are marked the greater the probability that the cow will be an excellent milker. The milking qualities are very likely to be transmitted, and the record of ancestry should always be considered. By many dairymen the form and extent of the escutcheon, or 'milk mirror' is regarded as much the most accurate and important of all the indications of the milking qualities, though many others place but little reliance upon its appearance. The discovery of this method of judging the value of cows for the dairy was made by a French herdsman named Francis Guenon. He observed that on the udder, thighs, and perineum (the space extending upward from the udder), the hair grows in a different direction from that on other parts of the body, and he became convinced that the size and form of this space, which he named the escutcheon, together with the quality of the skin and hair growing thereon, indicated with great precision the value of the cow for milking purposes. Guenon developed a very elaborate system which several years later he revised and simplified, though it remains quite complicated. The escutcheon is separated into ten different classes, each of which is divided into six orders, making 60 different forms of more or less favorable appearance. In addition to these, 10 'bastard' or imperfect styles are described. It is claimed that the size and form of the escutcheon indicate the quantity of milk which the cow will yield and the length of time in which she will give a fair quantity of milk after calving, while the quality of the product is shown by the color and softness of the skin and the condition of the hair on the 'mirror.' The system is applicable not only to cows but also to bulls and calves. In applying this, or any kindred system, the fact must be kept in mind that the extent and form of the escutcheon is necessarily modified by the size and peculiarities of the breed to which the animal belongs. A Jersey cow of the highest class being a much smaller and very differently formed creature will have a much smaller escutcheon than a Holstein-Friesian or a Shorthorn of only moderate milking capacity. While it is probable that the indications of the escutcheon are not infallible, they may, in connection with the other points which have been noted, prove of considerable assistance in estimating the milking qualities of cows concerning which little or nothing is definitely known.

The period of gestation of the cow is about 285 days, varying, however, from 240 to 301 days. A male calf is usually carried a few days longer than a female, and an old

cow goes a little longer with calf than a heifer. In the case of Jerseys, the breeding periods often begin when the calf is only seven or eight months old, but in the larger and less precocious breeds they do not begin till the animal has reached the age of 12 or 14 months. Of late the tendency has been strongly toward early breeding; and instead of waiting, as was formerly the custom, until the animal is three years old before she drops her first calf it is not unusual for the best dairymen to have their heifers calve when two years of age. A period of about nine months is then allowed to pass before breeding again, thus bringing the second calf when the cow is three-and-a-half years old. This plan makes the heifer a source of income at an early age, and, what is far more important, causes a fuller development of the milk-producing tendency and greatly shortens the period in which she will go dry between the times of calving. The cow usually increases in value until she has had her third calf, and remains at her best for four or five years. Many cows which are well fed and cared for are very productive till the age of 15 or 18 years, but very old cows are not usually profitable as their milk is of poorer quality than that of younger ones and a much larger amount of food is required to produce a given quantity.

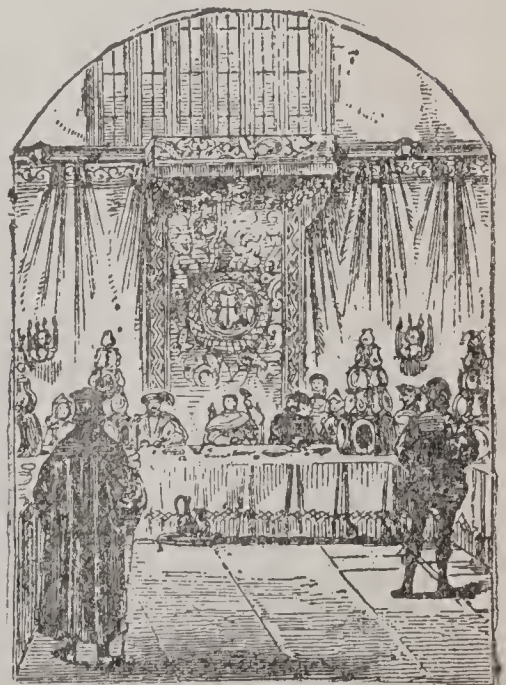
The calf should be removed from the cow very soon after it is dropped, tied with a strap around its neck in a comfortable pen or stable, wiped dry, and in a short time fed with milk drawn from its dam. For a few days it should be fed two or three times a day with fresh, warm milk. During this time it can be readily taught to drink from a pail by allowing it to suck two or three fingers which should be immersed in the milk and gradually withdrawn when it begins to take its food freely. In four days the milk from the cow will be suitable for use in the dairy. If the calf is to be turned into veal it will require a large proportion of the milk of its dam until it is fattened, a period of from four to six weeks. Many dairymen allow the calf to suck the cow during this time, but it is better for the cow that she should not see the calf after they have been separated. The calf should be fed with warm milk morning and night. If the calf is to be raised it should be given new milk for four or five days when half the ration may be skimmed milk which should be mixed with that fresh from the cow, and the whole warmed to the temperature of new milk. When four or five weeks old a teaspoonful of oatmeal or oil meal may be given each day. The quantity should be gradually increased as the calf grows larger, but care must be taken not to over-feed. When two or three months old the calf will drink water, and should thenceforth be supplied with it regularly. If the weather is warm a small pasture near the barn should be provided. If cold, the calf should have a comfortable stable and be given a moderate quantity of fine hay. Milk should be fed for six or eight months, at the expiration of which time the calf should be put in the stable with the cows. She should have an abundance of good food, but an effort should be made to promote growth rather than



Dahlia: A, Single, B, Double, variety.



Daimio in Court Dress.



Dais in Presence Chamber, Hampton Court.

fattening. She should be handled frequently, taught to follow with a rope around the horns, and always be kindly treated.

While the selection of good cows of a suitable breed for the special line of dairying pursued (the production of milk, butter, or cheese), is a matter of very great importance, it is equally necessary that they should be well cared for, and receive a liberal quantity of food of the best quality. The improved breeds have been obtained by the skilful selection of animals for breeding, re-enforced by extra care and liberal feeding. It is only by continued attention to these points that the high standard which has been reached can be maintained. The neglect of either will result in rapid deterioration. As milk, like all other animal products, is derived from the food, it follows that the quantity and quality secreted will be largely determined by the food with which the cow is supplied. A certain quantity of food is required to repair the waste of the system and maintain the natural heat. If milk is secreted it must be derived from food which is supplied in excess of these requirements, or, if this is wanting, from the fat which has previously been stored in the body. In the latter case the cow loses flesh and yields but little milk. But if liberally supplied with suitable food the cow has more material than is necessary to maintain the animal functions, and converts the remainder into either milk, or fat. Cows with a strong tendency to fatten should be turned over to the butcher as they are rarely good milkers. If milk is to be converted into butter the cows should be liberally fed with good hay, and receive in addition a few quarts of Indian meal or wheat bran, or, better, a mixture of the two. Cotton-seed meal, when carefully fed, is also of great value, but if too freely used it injures the cows and seriously impairs the quality of the butter. On the latter account its use is prohibited by many creameries which have high reputation for the quality of their products. Linseed-oil meal is also valuable if given in only small quantities, but is open to the objections made to cotton seed meal, besides being, in proportion to its actual worth for the production of milk, somewhat more expensive. If the milk is to be made into cheese, the feeding of clover, bean or pea meal, and other substances containing a large proportion of nitrogen, will give better results. But such materials must be given in only moderate quantities, as an excess of nitrogenous matter in the food is liable to cause disease. Indian corn is valuable to feed green during the mid-summer months when the pasturage is deficient, and also to put into the silo for winter use. (See ENSILAGE.) Certain roots, as carrots and mangolds, also are very useful in winter. Turnips, however, are likely to impart a strong and unpleasant flavor to the milk and butter, and if fed at all should be in very small quantities. As milk is 87 per cent. water, it is evident that cows should be supplied with pure water in abundance. A limited quantity of water, even if the quality is the best, will certainly cause a small yield of milk, while impure

Water not only taints the milk, but is a prolific source of disease. Cows require protection from severe heat in summer and from excessive cold in winter. Shady pastures should be furnished during the former season, and warm but well ventilated barns in the cold weather. The stables should be kept clean and be made as comfortable as possible.

Milking should be done twice daily, by the same persons, and as nearly as possible at the same hours. A change of milkers or irregularity in the time of milking will diminish the yield. A large number of milking machines have been devised, but none of them have proved successful, while some have seriously injured the cows upon which they have been used. In cases of severe soreness of the teats the use of silver tubes until the sores are healed is beneficial, but their regular use is not to be commended. The milk should be drawn by hand, gently, but as rapidly as possible and the milker should not stop until the udder has been entirely emptied. The greatest care as to cleanliness should be observed in drawing the milk. As it quickly absorbs bad odors it should be at once removed from the stable and carefully passed through a wire strainer and at least two thicknesses of dairy-cloth.

If the milk is to be set in open pans a cool and convenient milk room should be provided. An abundance of pure water and conveniences for regulating the temperature are indispensable. Another requisite when the milk is not at once removed from the farm is the use of ice in summer. By this means a larger quantity of cream can be obtained, and butter can be made in mid-summer of as good quality as in the most favorable season of the year. A small building for the storage of ice should be located near the milk room. (See ICE HOUSE.) When the milk is strained in open and shallow pans it is allowed to remain undisturbed until the cream has separated and risen to the top, the time required depending upon the temperature and being much longer in winter than in summer. When the separation is complete or, on account of the souring of the milk, has ceased, the cream is removed with a perforated skimmer and placed in earthen jars. Improved methods are rapidly taking the place of this way of securing the cream. These methods vary in some minor particulars but use either the principle of deep setting, or rapid cooling of the milk, or both combined. One of the leading systems is to strain the milk into cans 19 inches deep and 9 inches in diameter, and submerge them in water, which, by means of ice in summer, is constantly kept at a low and nearly uniform temperature. The tank in which the water is placed is lined with zinc, and is made of the proper size to hold the number of cans required. The covers of the cans do not shut closely, but have flaring edges which project about two inches below the top. When the can is submerged the air under the cover is condensed, and prevents water from reaching the milk while it allows the rapid absorption by the colder water of any odors which the milk may contain. Ice is put in the tank twice a day in summer,

DAIRY.

and less often in cooler weather. The water needs to be occasionally changed. The temperature should be kept at about 45 degrees in warm weather, and 40 degrees, or a little below, in winter. This will insure the separation of the cream from the milk in 12 hours. If the temperature is much higher a longer period is required. By this system impurities from the air are excluded, the complete separation of the cream is effected, and both cream and milk are perfectly sweet when removed from the tank. The skimming is done by means of a faucet at the bottom of the can through which the milk is drawn. Somewhat similar systems which do not require the use of ice take a longer time for separating the cream, and need a larger number of cans for a given quantity of milk. By what is known as the centrifugal system the cream is separated from the sweet milk by mechanical action. The milk is placed in a cylinder which is caused to revolve about 1,200 times a minute. It is claimed that by this method the most complete separation can be effected, and that the cream is of better quality and can be more readily converted into butter than that obtained in any other manner. The quantity of cream in a given quantity of milk varies greatly with different cows, also with the milk of the same cow at different times. The latter variation is very perplexing to the dairyman and occurs often without apparent cause.

The plan of associated dairying devised in 1850 by Jesse Williams, who lived in the vicinity of Rome, N. Y., has revolutionized the methods of dairy management in large portions of the country. The establishment of cheese factories and creameries has given a powerful impetus to the business, effected a great saving of labor, diminished the liability of loss and secured a greater degree of uniformity in the product than was possible under the old methods. Where cheese is made, the milk is taken to the factory by the producer in large cans, once a day in winter and twice each day in summer. When butter is made, the factory employs a man to collect the cream. Each patron sets the milk in the same style of cans with gauges precisely alike. The cream gatherer calls each day, draws off the milk, marks the number of spaces or inches of cream indicated by the gauge in a book which he carries, and also on a card hung on the wall of the milk room, and places the cream in large cans which he delivers at the factory when his round is finished, together with the figures showing the quantity obtained from each patron. Both cheese and butter factories usually pay their patrons once a month. When the milk is sold it is put into large cans, partially cooled, and taken to the shipping station every evening.

The profits of dairying vary greatly with the location, the condition of the land and the market, the facilities for carrying it on, and the degree of skill with which the business is conducted. When the milk is taken from the farm there is a constant and considerable loss of nitrogen and phosphates, and consequently a rapid and continuous diminution in the fertility of the soil which can only be

prevented or compensated by the application of manures or commercial fertilizers. When only the butter is sold and the skimmed milk is fed to the farm stock the loss to the land consists mainly of carbon, which can be replaced at slight expense. Whatever branch is pursued the dairy business requires a large amount of labor and close and constant attention. But the demand for dairy products of a high grade has, for many years, increased more rapidly than the supply, and will doubtless continue to do so. With a great and constantly enlarging foreign demand, and a rapidly extending domestic market for its products, the dairy business must continue to be a profitable branch of agriculture, and a source of great and permanent prosperity to the country at large.

DAIS, n. *dā'is* [F. *dais* or *daiz*, a canopy over the head of a throne, the whole seat—from OF. *dois*, more rarely *dez* or *detz*: in OF., *dais* meant a table—from L. *discus*, a round plate: comp. Gael. *dais*, a heap, a mow of hay or corn]: term used with considerable latitude by mediæval writers. Its most usual significations are the following: 1. A canopy over an altar, shrine, font, throne, stall, chair, statue, or the like. The term was applied to the canopy without regard to the materials of which it was composed, which might be cloth, wood, stone, metal, or other substance. 2. The chief seat at the high table in a hall, with the canopy which covered it, from which probably the word in all its significations was introduced, its French meaning being a canopy. 3. The high table itself. 4. The raised portion of the floor, or *estrade*, on which the high table stood, and by which the upper was divided from the lower portion of the hall; and 5. A cloth of state for covering a throne or table.

DAISY, n. *dā-zī* [a corruption of *day's eye*: AS. *dagesége* a daisy, (*Bellis*): perennial plant, common in Europe. An emblem of fidelity in days of chivalry, and its beauties celebrated by Chaucer, Burns, and other poets; grown in gardens in U. S.; flowers white, with narrow petals tipped with delicate crimson. There are many varieties, of which 'hen and chickens,' in which several small flowers surround the main head, is the most peculiar. The plant is readily propagated by parting the roots. The western wild daisy, *B. integrifolia*, is found in the south-western states. Ox-eye daisy, *chrysanthemum leucanthemum*, originally from Europe, has been widely disseminated e. of the Mississippi, and is rapidly increasing westward. It is a perennial plant, stems one to two ft. high, each bearing a single flower at its top. Often there are several stems from one root. Flowers an inch or more in diameter, white, with a yellow disk in the centre. It spreads rapidly, often overrunning mowings and pastures, and is difficult to eradicate. It can be exterminated by plowing and clean cultivation, followed by liberal manuring and heavy seeding with grass and clover. Close grazing by sheep will keep it down in pastures. In many eastern cities immense quantities of the flowers are used in summer for bouquets and decorations. They are

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grown also under glass and sold by florists during the winter. See CHRYSANTHEMUM. DAI'SIED, a. *-z'id*, full of or adorned with daisies.

DAI'SY, MICHAELMAS: see ASTER.

DAISY-MAT: a wool mat made in a wooden frame with round fluffy balls resembling daisies.

DAK, n. *dák*, or DAWK, n. *dawk* [Hind. *dák*]: a mode of travelling by post in the East: see DAWK.

DAKOIT, or DACOIT, n. *dāk'oyt* [Beng. *dakhe*, a robber]: in the *E. Indies*, one of a class of highway robbers in n. India who act in gangs: formerly the native sovereigns often employed them in war. They did not scruple at murder for the sake of plunder. Much has been done by govt. in British India to break up these bands; but in Bengal and Burmah some still remain. DAKOI'TY, n. *-koy'ti*, the act or practice of gang robbery.

DAKO'TA (or JAMES) RIVER: water-course of Dakota. see DAKOTA.

DAKOTAS, or SIOUX: see SIOUX: INDIANS.

DALAI-LAMA: see LAMAISM.

DALAMOW, *dál'a-mow*: city of Oude, on the left bank of the Ganges; 68 m. above Allahabad; lat. 26° 4' n., long. 81° 7' e. D. has long been regarded as a holy place in connection with its sacred river, having two antique temples of Siva on the margin of the stream, and an ancient ghat or stair for aiding the ritual ablutions of the pilgrims. Pop. abt. 6,000, of which only 250 are said to be Mohammedans.

DALARADIA: ancient name of a territory in Ireland which comprehended what is now the s. half of the county Antrim, and the greater part of the county Down. It was sometimes called *Críe na Cruithne*, 'the region of the Picts,' from the Irish name of its inhabitants, otherwise called the Dal Araidhe, 'the race of Fiacha Araidhe,' a chief or prince of Ulster, said to have lived about A.D. 236. The name continued in use till the end of the 12th c. It must not be confounded with DALRIADA (q.v.).

DALBERG, *dal'běrch*, KARL THEODOR, Baron von, Chamberlain of Worms and Archbishop of Regensburg: 1744, Feb. 8—1817, Feb. 10; b. Hemsheim. He studied in Göttingen and Heidelberg, and, after some time passed in travel, devoted himself to the priesthood. At Erfurt, of which he was appointed gov. 1772, he was active and generous as a patron of literature and art, and also contributed greatly to the social and commercial welfare of the little state. After holding several high offices in the church, D. was sent to Paris (1804), to assist in adjusting several ecclesiastical affairs with Napoleon and Pope Pius VII. He died at Regensburg. D. was as highly respected as a ruler and a scholar as for his private character. During his whole

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life, he cultivated the friendship of those eminent in literature and art, such as Goethe, Schiller, Wieland, etc. His writings—marked by sound learning and eloquence of style—include a treatise *On the Influence of the Arts and Sciences on Social Order* (1793) and *Pericles, or the Influence of the Fine Arts on the Public Welfare* (1806). These were his favorite objects of study; but natural history, chemistry, botany mineralogy, and agriculture also engaged his attention.

The DALBERG (formerly DALBURG) family, of which Baron Karl Theodor was the most conspicuous member, was an ancient and noble German family, of which several members held, by hereditary right derived from the oldest times of the middle ages, the office of chamberlain to the archbishopric of Worms. So great was the renown of the D. family, that at every coronation of a German emperor the royal herald exclaimed: 'Is there no Dalberg here?' whereupon the representative of the family kneeled, and received from the new emperor the dignity of 'first knight of the empire.' Several members of this family have been celebrated as patrons of literature and art.

DALBERGIA, *dāl-bērg'ī-a*: genus of trees and climbing shrubs of the nat. ord. *Leguminosæ*, sub-order *Papilionaceæ*, having a stalked membranous pod, which is flat, tapers to both ends, and contains 1-3 flat seeds. The leaves are pinnate, with a terminal leaflet. All the species are natives of warm climates. Some are valuable timber-trees, particularly the Sissoo of Bengal (*D. Sissoo*), much prized, and more extensively used in the n. of India than any other timber-tree except the Sal (q.v.). *D. monetaria*, native of Surinam, yields a resin very similar to Dragon's Blood.

DALE, n. *dāl*, or DELL, n. *dēl* [Icel. *dalr*, a dale, a valley: W. *toll*, a hole, a pit: Dan. *dal*; Goth. *dal*; Ger. *thal*, a valley]: a hollow where water collects and runs; the low ground between hills; a vale or valley. DALES'-MAN, n. one who resides in a district of hills and dales.

DALECARLIA, *dā-lā-kar'le-ā*, or DALARNE, *dāl'lar-nē* ('valley-country'): old province of Sweden, now forming the län or county of Fahlun or Falun (q.v.). The Dalecarlians are celebrated for the part they took under Gustavus Vasa in freeing their country from the yoke of Christian II. of Denmark.

DALGARNØ, *dāl-gar'no*, GEORGE: abt. 1626-1687, Aug. 28; b. Aberdeen: author. He studied at Marischal College, afterward kept a school in Oxford 30 years, where he died. He is notable for two works—the *Ars Signorum, Vulgo Character Universalis et Lingua Philosophica* (Lond. 1661), and *Didascalocophus, or the Deaf and Dumb Man's Tutor* (Oxf. 1680). The former is a very ingenious attempt to represent and classify ideas by specific arbitrary characters irrespective of words. It contains the germs of Bishop Wilkins's subsequent speculations on a 'real character and a philosophical language.' Leibnitz has repeatedly alluded to it in complimentary terms. The latter work has for its design 'to bring the way of teaching a deaf man to read and write as near

as possible to that of teaching young ones to speak and understand their mother-tongue.' D. has the great merit of having anticipated, by more than 130 years, some of the most profound conclusions of the present age respecting the education of the deaf and dumb.

DALHOUSIE, *dāl-hó'ze*, Marquis of, JAMES ANDREW BROWN-RAMSAY, Governor-general of India: 1812, Apr. 22—1860, Dec. 19; b. at Dalhousie Castle, Midlothian; third son of the ninth Earl of D. He was educated at Harrow, and graduated at Christ Church, Oxford. In 1836, he married the eldest daughter of the eighth Marquis of Tweeddale; in 1837, was elected for Haddingtonshire. On the death of his father, 1838, he succeeded to the earldom of D., and became a member of the upper house. In 1843, he was appointed, by Sir Robert Peel, vice-pres. of the board of trade, and in 1845 succeeded Mr. Gladstone as pres. of the board. The 'railway mania' threw an immense amount of labor and responsibility upon his department; and his energy, industry, and administrative ability, and his readiness and fluency in parliament, marked him out for the highest offices in the state. When Sir Robert Peel resigned office 1846, Lord John Russell, who succeeded him, paid the Earl of D. the rare compliment of asking him to remain at the board of trade, in order to carry out the regulations that he had framed for railway legislation and intercommunication. In 1847, he was appointed gov.gen of India, successor to Lord Hardinge, and arrived in Calcutta 1848, Jan. 12,—the youngest gov.gen ever sent to that country. His Indian administration was not less splendid and successful in acquisition of territory than in development of the resources of the country and improving the administration. Pegu and the Punjab were conquered; Nagpore, Oude, Sattara, Jhansi, and Berar were annexed—altogether, four great kingdoms, besides a number of minor principalities, were added to the dominions of the queen under his gov.generalship. Railways on a colossal scale were planned, and partly commenced; 4,000 m. of electric telegraph were spread over India; 2,000 m. of road between Calcutta and Peshawur were bridged and metalled; the Ganges canal, the largest of the kind in the world, was opened; the Punjab canal was undertaken; important works of irrigation all over India were planned and executed, and the official department of public works was re-organized. Among the incidents of his beneficent administration were the permission to Hindu widows to marry again; relief to persons of all sects from the risk of forfeiting property by a change of religion; the improvement of education and of prison-discipline; the organization of the legislative council; the improved training of the civil service, covenanted and uncovenanted; and the reform in the postal service of India, whereby a letter from Peshawur to Cape Comorin, or from Assam to Kurrachce, is now conveyed for three farthings, one-sixteenth of the old charge. D.'s constitution had never been strong, and it gave way under the incessant labor and responsibility of his high position. Meanwhile, honors had been showered upon him by his queen and country with no sparing hand: in 1848, he

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was made a knight of the Scottish order of the Thistle; in 1849, he received the marquissate, the thanks of both houses of parliament and of the E. India Company, for his 'zeal and ability'; in 1852, on the death of the Duke of Wellington, he was nominated by the then prime minister, the Earl of Derby, to the office of constable of her majesty's castle of Dover, and lord warden of the Cinque Ports. D. sailed from Calcutta 1856, March, and, after much physical suffering, died at Dalhousie Castle in his 48th year, leaving a name among the highest in the roll of Indian viceroys for statesmanship, administrative vigor, and the faculty of inspiring confidence.

DALIAS, *dá'le-ás*: town of Spain, province of Almeria, 20 m. w.s.w. of the city of Almeria, about 4 m. from the Mediterranean. It is badly and irregularly built, and is subject to earthquakes. The people are employed chiefly in mining, smelting, and fishing. Pop. abt. 9,000.

DALKEITH, *dál-kéth'*: burgh of barony, 6 m. s.e. of Edinburgh, near the junction of the North and South Esk; a station of the North British railway. It consists chiefly of one main street. It has one of the largest corn-markets in Scotland; has a large and commodious market-hall, erected 1854; manufactures of brushes, woollens, and hats, besides iron-foundries, tanneries, and coal-works. D. arose round an ancient castle, long a great stronghold. The regality of D. was successively held by the Grahams, the Douglasses, the Earls of Morton, and the Earls of Buccleuch—the latter having bought it from the Mortons 1642. During the minority of James VI., D. Castle was the chief residence of the regent Morton; hence it was called the Lion's Den. General Monk lived in it during his government of Scotland under Cromwell. Dalkeith Palace, chief seat of the Duke of Buccleuch and Queensberry, built about 1700 on the site of the old castle, is a large square structure overhanging the North Esk, amid fine grounds, in which the two Esks flow and unite. There are about a dozen places of public worship. Besides the old parish church, there is another, a fine cruciform structure in the early English style, built (1840) and endowed by the Duke of Buccleuch. An Episcopal chapel stands within the palace grounds. D. possesses several good public and private schools. The Dalkeith union workhouse, opened 1849, was the first in Scotland. Pop. (1881) 6,931.

DALKISSORE, *dál'kís-sôr*: river of Bengal Proper, joining the Hoogly from the right at Diamond Harbor, about 30 m. below Calcutta. It has a s.e. course of about 170 m., rising in lat. 23° 30' n., and long. 86° 34' e. In its lower section, the D. assumes the name of the Roopnerain. That channel of the Hoogly which receives the Roopnerain has of late years become silted up through the same cause to which the adjacent delta owes its existence. Moreover, as the tide sets strongly into the Roopnerain, as offering less resistance to its progress, many vessels bound to Calcutta have been swept up the shallow estuary and lost.

DALLAS.

DALLAS, *dāl'as*: city, cap. of D. co., Tex.; on Trinity river just below the mouth of the Elm fork; on the Texas and Pacific, Houston and Texas Central, Missouri Kansas and Texas, Gulf Colorado and Santa Fé, and the Texas Trunk railroads, 73 m. s. of Denison, 122 m. w. of Longview, 186 m. s. of Shreveport, La., 215 m. n.e. of Austin, 265 m. n.w. of Houston, 315 m. n. of Galveston. It is in one of the richest wheat and cotton sections of the country; built mainly above high-water mark; extends back across a gradually rising stretch of land, and is correcting as far and as rapidly as possible the irregularities of its early laying-out. The principal business streets, all running nearly e. and w. are Elm, the most northerly and the chief retail thoroughfare; Main, on which the banking, office, and real-estate businesses are centered; and Commerce, the wholesale and jobbing street, which also contains the opera house, city hall, hotel (cost \$400,000), and several other fine buildings. The business streets and some of the residence avenues are paved with osage orange blocks, said to be practically indestructible, and other streets have macadamized pavements. The water supply is principally from Trinity river, and is collected, filtered, and distributed by the Holly system. As the water is liable to become muddy when the river rises, successful efforts were made 1889-90 to obtain a supply of clear water by artesian wells. D. contains the largest cotton-seed oil mill in the state, a cotton mill, handling 25 bales daily, 7 flour and grist mills, 2 grain elevators, 8 saddle and harness factories, 6 planing mills, 5 carriage and wagon factories, 4 cotton gin and press factories, 3 broom factories, 3 iron and brass factories, artificial ice factory, and other important industries. It has a wholesale and retail business in general merchandise averaging about \$30,000,000 per annum; a trade in cotton, grain, and other productions of the surrounding country reaching more than \$7,000,000; and 1889 sold farming implements and machinery valued at \$6,000,000. There were 1890, Mar., 8 national banks (cap. of 7 reporting, \$1,875,000), and 2 private banks; 18 churches divided between the leading denominations; handsome U. S. court-house and post-office; co. court-house; merchants' exchange; D. Medical College; D. Female College; gas works and extensive electric light plant; several public parks; and 28 daily, weekly, monthly, and other periodicals. The assessed valuation 1872 was \$922,470; 1882, \$4,754,775; assessed real and personal property valuation (1901) \$23,984,900; net public debt \$1,719,500; tax rate \$1.65 per \$100. Pop. (1900) 42,638.

DALLAS, ALEXANDER JAMES: 1759, June 21--1817, Jan. 14; b. island of Jamaica: lawyer. He was educated in Edinburgh and London; removed to Philadelphia 1783; was admitted to the bar 1785; appointed sec. of Penn. 1791, 93, 96; U. S. dist. atty. 1801; sec. of the U. S. treas. 1814; sec. of war *pro. tem.* 1815; and retired from public life 1816. As sec. of the treas. he urged the establishment of a national bank, negotiated a large loan advantageously, and brought the value of U. S. treas. notes to par; and as

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sec. of war superintended the reduction of the army. He published many historical, legal, and financial works.

DALLAS, GEORGE MIFFLIN: statesman: 1792, July 10—1864, Dec. 31; b. Philadelphia; son of ALEXANDER J. D. He graduated at the College of N. J. 1810; was admitted to the bar 1813; the same year became private sec. to Albert Gallatin (q.v.); appointed dep. atty.-gen. for Philadelphia co. 1817; elected mayor and appointed U. S. atty. for the Philadelphia district 1829, elected U. S. senator to fill vacancy 1831; was atty.-gen. of Penn. 1833-35; U. S. minister to Russia 1837-39; vice-pres. of the United States under James K. Polk 1845-49; U. S. minister to Great Britain 1856-61; and retired from public life on his return home. He was tall and of venerable aspect, and had many of his speeches published.

DALLES, *dalz*: romantic and perilous rapids on the Columbia river in Oregon, forming with the Chutes above them, and the Cascades below them, an almost continuous interruption between the tide-water of the river and its long reach—about 400 miles—of comparatively practicable navigation toward the interior. They are subdivided, reckoning downward, into the Little D. and the D. Proper. On the latter, the basaltic rocks, which, from a considerable distance above, bound the channel, suddenly confine the stream to one-third of its width, with a perpendicular wall on either side; while the damming up of the plunging surges aggravates the difficulties and dangers of the descent.

DALLES CITY, or THE DALLES, is a city, the co. seat of Wasco co., Oregon. It is on the Columbia, about 120 m. e. of Portland. Pop. (1900) 3,542.

DALLIANCE: see under DALLY.

DALLING AND BULWER, Baron: see **BULWER, SIR HENRY LYTTON.**

DALLY, v. *dāl'li* [Icel. *dvala*, to delay: Dut. *dwalen*, to err: Ger. *dalen* or *dahlen*, to chatter, to trifle: Westph. *dalen*, to speak or act childishly: comp. Gael. *daíl*, delay]: to lose time by trifling; to fondle; to play with caressingly; to put off; to amuse for the purpose of delay. **DAL'LYING, imp. DAL'LIED, pp. -līd.** **DAL'LIER, n. -lī-ér,** one who. **DALLIANCE, n. *dāl'li-āns*,** acts of toying fondness between males and females; act of trifling; a lingering. **DILLY-DALLY, v. to waste time in trifling.**

DALMATIA, *dāl-mā'shī-a*: narrow strip of territory, extending along the Adriatic Sea; bounded on the n. by Croatia, on the e. by Bosnia, Herzegovina, and Montenegro; lat. 42° 15'—44° 54' n., long. 14° 30'—19° e. It forms, with its adjacent islands, the most s. province of the Austrian empire. Area, 4,940 sq. m.; pop. (1900) 593,783. The coast of D. is everywhere steep and rocky, and the adjacent islands, divided by picturesque straits and channels, are of like character. Numerous bays intersecting the coast form excellent havens and landing-places. Offsets from the Dinaric Alps traverse the interior, and attain in Mount Orien, the highest culminating point,

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6,332 ft.: the Velebich Mountains, separating D. from Croatia, and which belong to the Julian Alps, have a height of more than 5,000 ft. The mountains of D., for the most part limestone, present a bleak and barren aspect, with many romantic chasms and fissures, through which dash impetuous mountain-streams. The chief rivers—none of importance—are the Zernagna, Kerka, Cettina, and Narenta, the second and third of which are broken in several places by beautiful cascades and falls. The lakes are numerous, but, with the exception of Lake Vrana—separated from the Adriatic by only a narrow tongue of land, and the waters of which are brackish—they are periodical, drying up in summer, and refilling their beds in late autumn. A large part of the whole area of D. is moor and morass, yet in summer there is often scarcity of water. The climate is in general warmer than that of any other part of Austria, the African sirocco being occasionally felt on its shores. The minerals are limestone, coal, gypsum, etc. Agriculture is backward. About one-ninth of the land is arable, and produces wheat, barley, oats, maize, rye, and potatoes. Wine and olives also are produced. More than half of the land is in pasture, and wood occupies about a fifth. The islands are not very fertile, but supply good timber for ship-building. Cattle-rearing, seafaring, and the fisheries on the coast, are the chief industries. The exports are principally of wine, oil, brandy, hides, wool, wax, honey, and fruits. D. was in 1867 attached to the *Austrian* half of the Austro-Hungarian monarchy, though the Slavonian inhabitants would have preferred a closer union with Croatia and Slavonia. Of the whole population (527,426) about one-ninth are Italians, 1,000 Albanians, 1,000 Germans, 500 Jews, and the remainder Southern Slavonians—chiefly Dalmatians and Morlaks. The Dalmatians are a fine race of men—bold and brave as seamen and soldiers, with great love of independence—and formerly were the main support of the military power of Venice. But they are deceitful and rapacious. They speak the Illyrian-Servian or Herzegovinian dialect; but the language used in the govt. offices, especially in Spalatro, is the Italian. The Morlaks—who inhabit the interior, the mountainous districts, and the Turkish sanjak of Hersek—also are good soldiers, hospitable, and faithful to their engagements, lovers of independence, but, it is said, addicted to robbery and drunkenness. D. is divided into four circles—Zara, Spalatro (or Spalato), Ragusa, and Cattaro. These are also the names of the chief towns.

In ancient times, D. was a considerable kingdom, and, after many unsuccessful attempts, was first subjugated by the Romans in the time of Augustus. After the fall of the Western Empire, D., which had formed the most s. part of the province Illyricum, was captured by the Goths, from whom it was taken by the Avari (490), who in their turn yielded it to the Slavonians about 620. The state founded by the Slavonians continued until the beginning of the 11th c., when King Ladislaus of Hungary incorporated a part of D. with Croatia, while the other part, with

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the title of Duchy, placed itself under the protection of the Venetian republic. The Turks afterward made themselves masters of a small portion; and by the peace of Campo-Formio (1797), the Venetian part of D., with Venice itself, became subject to Austrian rule; and when Austria, 1805, had ceded this part of D. to Napoleon, it was annexed to the kingdom of Italy; afterward (1810) to Illyria. Since 1814, D. forms part of Austria; Spizza being added by the Congress of Berlin, 1878. See CROATIA.

DALMATIAN, a. *dāl-mā'shan*: of or pertaining to Dalmatia: N. a native or inhabitant of Dalmatia (q.v.).

DALMATIC, n. *dāl-māt'ik*, or **DALMATICA**, n. *-ī-kā* [said to be a dress originally worn in *Dalmatia*]: deacon's robe, in the Rom. Cath. Church. It was originally of linen, but it is now generally made of the same heavy silk as the Planeta (q.v.), worn by the priest.

DALNY: a port of Russia at the e. terminus of the Siberian railroad; connected with St. Petersburg by the Central Manchurian railroad; has one of the finest deep-water harbors on the Pacific, as it is free from ice, and ships drawing 30 ft. can enter at low tide without difficulty. The bay is many miles in extent and the deep water area is sufficient to accommodate the shipping of all Europe. D. is a city built by the government especially for commercial purposes, and was opened as a free port to the commerce of all nations, 1901, Dec. 1. According to the plan that is being followed the harbor is to have five large piers, supplied with warehouses, railway tracks, electric lights, and elevators, with a large and substantial breakwater across the pier heads, and two great dry-docks for the use of large merchant vessels and warships. The Russian government up to 1901 had spent \$6,180,000 in constructing the harbor and city, and the completion of the harbor was expected to cost \$11,845,000 more. Pop. (1901) 50,000.

DALRI'ADA: ancient name of a territory in Ireland, comprehending what is now called 'the Route,' or the n. half of county Antrim. It signifies primarily, 'the race of Riada'; secondarily, 'the country of the race of Riada,' i.e., Cairbre Righfada, or 'Cairbre of the Long Arm,' the son of a chief or prince of the Scots in Ireland, a warrior of note. He lived in the 3d c., and not only obtained ascendancy in the district of Ireland which was called after him, but, according to some writers, planted a colony of his Scottish countrymen on the shores of Argyleshire in Alba, or Albany, as Scotland was then called. It is certain that, about 506, some of his descendants, led by Loarn, Fergus, and other sons of Eirc, son of Muinreamhar, passed over to Argyleshire, where they settled themselves permanently,

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and founded the kingdom of 'Dalriada in Albany,' or 'the Scots in Britain.' More than 20 kings of this state are enumerated before Kenneth MacAlpin, who, about 843, united under one sceptre the Dalriads, or Scots, and the Picts, and thus became the first king of Albany, which about two centuries afterward began to be known as Scotia or Scotland.

DALRIADS, *dāl'ri'-adz*, or **DALREUDI'NI**: inhabitants of **DALRIADA** (q.v.).

DALRY, *dāl-rī'*: town of Ayrshire, Scotland, on the Garnock, 20 m. s.w. of Glasgow. D., until 1850, a small village, has increased in population in consequence of the establishment of iron-works at and near it. It has also a large woolen mill. Pop. (1851) 2,706; (1861) 4,232; (1871) 5,214; (1881) 5,010; (1891) 4,572.

DALRYMPLE, *dāl'rīm pl*, **ALEXANDER**, F.R.S., F.S.A.: 1737, July 24—1808, June 19; b. at New Hailes, the seat of his father, near Edinburgh; great-grandson of Viscount Stair, and younger brother of Sir David D. In 1752, he obtained an appointment in the E. India Company's service; but young Dalrymple, then between 15 and 20 years of age, unluckily for his own prospects, fell upon some papers in the secretary's office relating to the commerce of the Eastern Archipelago, and became so engrossed with the importance of the subject that, after a period of bickerings with his superiors, he relinquished his appointment; and made a voyage of observation among the eastern islands. At Socloo, in the course of his expedition, he concluded a commercial treaty with the sultan, but on his return in 1762, he found political affairs entirely changed, and his scheme proved a failure. In 1765, he returned to Britain, to urge its importance on the home-authorities, but did not succeed. In 1779, he was appointed hydrographer to the E. India Company, and shortly after received a pension. In 1795, when the admiralty resolved to establish a similar office, it was conferred on D., who held it till near his death at Marylebone, London. He wrote a vast number of letters, pamphlets, etc., containing plans for promotion of British commerce in various parts of the world, political dissertations, accounts of geographical expeditions, etc. His library was rich in works of navigation and geography, all of which were purchased by the admiralty. His collection of poetry, also very valuable, was deposited in the library at New Hailes, as a family heirloom.

DALRYMPLE, **Sir DAVID**, commonly known as Lord Hailes: Scottish judge and antiquary: 1726, Oct. 28—1792, Nov. 29; b. Edinburgh; grandson of Sir David D., who was youngest and reputedly the ablest son of Viscount Stair. He was educated first at Eton, afterward at Edinburgh, finally at Leyden, whence he returned to Scotland 1746. In 1748, he was called to the Scottish bar. In 1766, he was appointed one of the judges of the Court of Session, assuming the title of Lord Hailes. He was accurate, diligent, impartial, and dignified.—Although D.'s official

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duties were very arduous, he found time to compose numerous works of value: among them are *A Discourse on the Gowrie Conspiracy* (1757); *Memorials and Letters relating to the History of Britain in the Reign of James I.* (1762), a curious and interesting volume; *The Works of the ever-memorable John Hailes of Eton, etc.* (1765); *Memorials and Letters relating to the History of Britain in the Reign of Charles I.* (1766); *Annals of Scotland from the Accession of Malcolm III., surnamed Canmore, to the Accession of Robert I.* (1776); and *Annals of Scotland from the Accession of Robert I., surnamed the Bruce, to the Accession of the House of Stuart* (1779). Besides these, Dalrymple wrote works on legal antiquities and ancient church history, edited old Scotch poems, and published sketches of the lives of various notable Scotchmen.

DALRYMPLE, JAMES, Viscount STAIR: lawyer and statesman; 1619, May—1695, Nov. 25; b. Drummurichie, Ayrshire; son of a small proprietor; of a very old and illustrious Scottish family, named from the lands of D. in Ayrshire. He was educated at Glasgow Univ., and, at an early age, entered the army raised in Scotland to repel the religious innovations of Charles I. But the bent of his mind lay toward civil and literary pursuits; and, in 1641, he was appointed prof. of philosophy at Glasgow. The use which he made of philosophy, however, was rather to aid him in basing law—his favorite study—on profound and comprehensive principles, than to add another metaphysical system to those already in existence. In 1648, he entered as an advocate at the Scotch bar, where he rapidly acquired distinction; in 1649, and again in 1650, he was appointed sec. to the commissioners sent to Holland by the Scottish parliament to treat with Charles II.; and, in 1657, was induced to become one of the ‘commissioners for the administration of justice’ in Scotland under Cromwell’s government. D. was a conscientious, but exceedingly moderate and enlightened, royalist; and though appointed one of the new Scotch judges after the Restoration, he resigned his seat 1663, because he could not take the ‘declaration’ oath, which denied the right of the nation to take up arms against the king. His great talents, however, induced the monarch to accept his services on his own terms. D. was now created a baronet. In 1671, he became lord pres. of the court of session. In 1681, when the infamous ‘test’ oath was under consideration, D., with the dexterity of a lawyer, caused John Knox’s Confession of Faith to be introduced as a part of the test; but as this confession inculcated resistance to tyranny as a duty, the one-half of the test contradicted the other. D.’s private conscience, however, was more fastidious than his public one, for he refused to take the very oath which, by his ingenuity, he had virtually deprived of its despotic character, and in consequence had to resign all his appointments. Before this, he had published *Institutions of the Law of Scotland*, still the grand text-book of the Scotch lawyer. Dalrymple went to Holland 1682, to escape the persecution to which he was subjected at home; and while

DALRYMPLE—DALTON.

at Leyden, during 1684–87, he published, at Edinburgh, his *Decisions*; and 1686, at Leyden, a philosophic work in Latin, *Physiologia Nova Experimentalis*. He accompanied the Prince of Orange on his expedition to England. When matters were prosperously settled, William re-appointed him lord pres. of the court of session, and elevated him to the peerage under the title of Viscount Stair. Viscount S. had nine children, five sons and four daughters.

His eldest son, JOHN D., Earl of Stair (died 1707), held office under James II., and also under William III. While sec. of state for Scotland, he incurred great odium for his share in the barbarous transaction known as the 'Massacre of Glencoe.' He was elevated to the earldom 1703.

Sir JAMES D., second son of Viscount Stair, was author of *Collections concerning Scottish History preceding the Death of David I.* (1705), and grandfather of Sir John D. of Crans-toun, author of *Memoirs of Great Britain and Ireland, from the Dissolution of the last Parliament of Charles II. until the Sea-battle off La Hogue*.

DALRYMPLE, JOHN, second Earl of Stair: 1673, July 20—1747; b. Edinburgh; second son of the first Earl of Stair, and grandson of Viscount Stair. He had the misfortune, while young, to kill his elder brother, by the accidental discharge of a pistol. This unhappy circumstance induced the parents to educate him away from home, under the care of a clergyman in Ayrshire. D. afterward went to Leyden, where he had the reputation of being one of the best scholars in the university. He completed his curriculum at Edinburgh. In 1701, he accepted a commission as lieut.-col. of the Scottish regt. of foot-guards, and gained the highest distinction in Marlborough's campaigns. When the accession of the Tory ministry, 1711, put a stop to the brilliant career of the great duke, D. retired from the army. When George I. succeeded to the throne, D.—who had become Earl of Stair by the death of his father, 1707—was made a lord of the bedchamber, a privy-councilor, and commander-in-chief of the forces of Scotland. Next year, he was sent as ambassador to France, in which capacity he showed the highest ability, and was of the greatest service in traversing the schemes for the reinstatement of the Pretender; but as he refused to flatter his countryman, Law—notorious in connection with the fatal Mississippi scheme—who was then of highest influence in France, the government was mean enough to recall him. For 22 years he lived in retirement at Newliston, near Edinburgh, busied chiefly in agriculture. He was the first to plant turnips and cabbages in the open fields. In 1742, he was sent as ambassador to Holland, and in the following year served under George II., at the battle of Dettingen. Later, he was made commander-in-chief of the forces of Great Britain. See *Annals, etc., of the Viscount and Earls of Stair*, by J. M. Graham (1875).

DALTON, *dawl'ton*: town of Furness, Lancashire, England, on a gentle declivity, abt. $3\frac{1}{2}$ m. from the sea. 18 m.

DALTON—DAM.

w. n. w from Lancaster. There are iron mines and foundries in the vicinity, and some malting is carried on. Near the town are the ruins of Furness Abbey, founded for monks of the Cistercian order, 1127, by Stephen, Count of Boulogne, afterward king of Eng. Pop. (1891) 13,300.

DALTON: city and cap. of Whitfield co., Ga.; on the Southern and Nashville and the Chattanooga and St. Louis railroads; 100 m. w. of Atlanta. It is a winter and summer health resort; the seat of Dalton Female College; and has canning factories, flour mills, cotton compresses, and foundries and machine shops. During the civil war it was nearly destroyed. Pop (1900) 4,315.

DALTON, JOHN: 1766, Sep. 5—1844, July 27; b. Eaglesfield, near Cockermouth, Cumberland, England. He showed his love of mathematical and physical studies while in a boarding-school kept by a relative in Kendal. He wrote several mathematical essays, and, 1788, began a journal of meteorological observations, which he continued through life. In 1793, he was appointed teacher of mathematics and the physical sciences in the New College at Manchester, where he resided during the remainder of his life, though frequently employed, after 1804, in giving lectures on chemistry in several large towns. In 1808–10, he published his *New System of Chemical Philosophy*, 2 parts (Lond.), to which he added a third part 1827. In 1817, he was appointed pres. of the Literary and Philosophical Soc. at Manchester. He was also a member of the Royal Soc., and of the Paris Acad., and, 1833, received a pension of £150, afterward raised to £300. In the same year, D.'s friends and fellow-townsmen collected £2,000, to raise a statue to his honor, executed by Chantrey, and placed at the entrance of the Royal Institution in Manchester. D. was also honored by the univ. of Oxford with the degree D.C.L., and with LL.D. by the univ. of Edinburgh. He died, universally respected, at Manchester. His chief physical researches were on the constitution of mixed gases, on the force of steam, on the elasticity of vapors, and on the expansion of gases by heat. In chemistry, he distinguished himself by his progressive development of the atomic theory (q.v.), as also by his researches on the absorption of gases by water, on carbolic acid, carburetted hydrogen, etc. His treatises are mostly in the *Memoirs of the Literary and Philosophical Soc. of Manchester*, the *Philosophical Transactions*, Nicholson's *Philosophical Journal*, and Thomsen's *Annals of Philosophy*. Besides these, we have his *Meteorological Essays and Observations* (Lond. 1793; 2d edit. 1834).

DALTONISM, n. *dāl'tŏn-izm* [after the chemist *Dalton*, who was so affected]: color-blindness: see **COLOR**: **COLOR-BLINDNESS**.

DAM, n. *dām* [It. *dama*; F. *dame*, a lady—from L. *dominā*]: a female parent, now used only for animals.

DAM, v. *dām* [Icel. *dammr*; Dan. *dam*, a fish-pond; old Sw. *damfn*, a dam: Pol. *tama*, a dam, a dike]: to stop wholly or partially the flow of a stream of water by a mound of earth and stones, by a wall of timber or masonry, or by

any other obstruction: N. a bank or mound of earth and stones; anything to confine wholly or partially a stream of water. DAM'MING, imp. DAMMED, pp. *dǎmd*. TINKER'S DAM, a little barrier of clay or dough used by tinkers for confining melted metal till it hardens, and after its use proverbially worthless.

DAM, or DAUM, n. *dawm*: an Indian copper coin, the fortieth part of a rupee, rather more than a halfpenny.

DAMA, n. *dā'ma* [L., a fallow-deer, buck or doe]: genus of mammals, family *Cervidae*. *D. platyceros* is the Fallow-Deer (q.v.), called by many zoologists, *Cervus dama*.

DAMAGE, n. *dām'ij* [F. *dommage*, harm—from OF. *damage*—from L. *damnum*, hurt, loss]: any hurt, loss, or harm to property or person; the value of the mischief done: V. to injure; to hurt or harm; to receive harm; to be injured. DAM'AGING, imp. DAM'AGED, pp. *-ijđ*. DAMAGES, n. plu. *dām'ă-jěz*, money awarded by a court of law on account of loss or injury to property, or injury to person, through the fault of another. DAM'AGEABLE, a. *-ij-ă-bl*, that may be injured. WHAT'S THE DAMAGE? how much is to pay? what is the bill of loss?—SYN. of 'damage, n.': detriment; injury; harm; mischief; prejudice; injustice; wrong; loss.

DAM'AGES, in Law: pecuniary reeompense claimed on account of suffering an injury through the act of another. The progress of recent legislation has been in the direction of restricting actions for D. to the cases in which the restitution of property or enforcement of a right cannot be otherwise attained.

Where a sum ascertained in amount is due, the action is one not properly for D., but of debt. But where the sum is not ascertained, as where an injury has been done to a man's character or property, the action can in general be only for D., the amount of which the injured party estimates, and which is determined by the judgment of the court, or verdict of a jury, subject to certain fixed rules which the courts have laid down, as the principle according to which the estimation is to be made. See the titles of the special subjects out of which a claim may arise. It is a general rule to restrict the amount of D. to the actual pecuniary loss, wherever it can be ascertained; and a stipulated penalty for breach of agreement will not usually be accepted as determining the sum due for D., unless it shall appear, by the use of the term 'as liquidated damages,' or some equivalent expression, that both the parties had intended to fix conclusively the sum payable in case of default. Other general rules are, that the injury for which D. are claimed must have affected the claimant individually, and not merely as one of the general public, though it is not essential that the injury should have done material hurt to him, as this affects only the amount of damages. And the injury suffered must have been the direct and immediate consequence of the act done; when it is only a secondary or remote result of the act, no D. will be given. And any act sued on must be an actual injustice; it is not

DAMALIS—DAMAN.

enough that it produces disadvantageous results, if these arise only from doing what the party was justified in doing. D., therefore, may be sued for in respect of a crime involving liability to criminal punishment. In general, D. are only compensatory; though there are cases in which they have a punitive quality.

DAMALIS, n. *dām'al-īs* [Gr., a young cow or heifer]: genus of quadrupeds belonging to the order *Ruminantia*, and intervening between the cow and the sheep. They were formerly classed with the antelopes. The horns are sub-cylindrical, lyrate, and diverge; a small, bald, moist muffle exists between and below the nostrils; the female has two tails. *Damalis lunatus* is the Sassaby or Bastard Harte-beest; *D. senegalensis*, the Korrigum; *D. pygarga*, the Nunni or Bonte boc; *D. albifrons*, the Bless-boc; and *D. eebra*, the Doria.

DAMAN, *dā-mān'*: outlying portion of the Punjab, runs about 300 m. along the right or w. bank of the Indus, extending back with an average breadth about 60 m., as far as the Suliman Mountains. It stretches in n. lat from 28° 40' to 33° 20', and in e. long. from 69° 30' to 71° 20'. In the absence of irrigation, the district in general is little better than a plain of smooth, bare, hard clay—the result of alternate inundation and evaporation. But when duly irrigated, this baked and burned surface becomes very productive, more especially in the strip of land—known as the Derajat—nearest the bordering stream.

DAMAN': seaport town, province of Guzerat, Hindustan, belonging to the Portuguese. It stands at the mouth of the Daman Gunga, or Daman river, which rises in the Syadree Mountains, as the upper extremity of the w. Ghauts is called by the natives; lat. 20° 11' n., and long. 73° 42' e. Common spring-tides give at least three fathoms on the bar, while outside is a roadstead of more than double that depth. The harbor affords good shelter from the s.w. monsoon, and, as the neighborhood is well stocked with suitable timber, the people are largely employed in the building and repairing of ships. The peculiar drawback of the locality is the lack of fresh water. The river, even when swollen by the rains into an inundation, is brackish, and the wells likewise are so in some degree. Endemic fevers are the natural consequence. The place is fortified with a rampart and bastions, and it is described as having been, before the arrival of the whites, 'a town great and strong.' Pop. 6,000.

DAMAN, *dām'an* (*Hyrax*): name of one or more species of the order *Hyracoidea*, established by Huxley, and containing 13 species. They were long regarded as a link between *Rodentia* and *Pachydermata*. They were always ranked among the former, till Cuvier pointed out their essential agreement, in dentition and anatomical characters, with the latter, and assigned them a place next to the elephant and the rhinoceros, remarking that, 'excepting the horns, they are little else than rhinoceroses in miniature.' He adds that 'they have quite similar molars, but the upper jaw has two stout incisors curved downward, and during youth

two very small canines, the lower jaw four incisors without any canines.' The skull, also, and other bones of the head, resemble those of the pachyderms. The muzzle is short; the ears, short and round. The ribs are more numerous than even in the pachyderms—21 pair, a number exceeded in no quadrupeds except the sloths, whereas no rodent has more than 15 pair. The toes are united by the skin to the very nail, as in the elephant and rhinoceros, and are round and soft, merely protected in front by a broad nail, which does not reach the ground. The legs are short. The tail is a mere tubercle. There are several species of this genus, natives of Africa and of s.w. Asia. The SYRIAN D. (*H. Syriacus*) is now generally believed to be the *shaphan* of the Old Testament, the *cony* (q.v.) of the authorized English version. The D. is common in Syria and Palestine, inhabiting rocky places, and sheltering itself in the holes of the rocks, but not burrowing, for which its feet are not adapted. It is a timid harmless creature, quick and lively in its movements, completely herbivorous, easily domesticated, and, in confinement, readily eating bread, roots, fruits, and herbs. It is about 11 inches long and 10 inches high; brownish-gray above, white beneath, the thick hair interspersed with long scattered bristles. The ASUKOKO (*H. Abyssinicus*) of Abyssinia, described first by Bruce, and supposed by him to be the *shaphan*, is now believed to be distinct from the Syrian D., though very similar. The KLIP-DASSE (*H. capensis*) of s. Africa differs from the *shaphan* in its darker color and rather larger size, and also in having only three toes on each foot, whereas the Syrian D. has four toes on the fore-feet and three on the hind-feet. It is very common in rocky places in s. Africa, both on the hills and near the sea-shore. Its favorite food consists of aromatic plants, and its flesh, although eatable, is highly flavored. In the places which it frequents, a peculiar substance called *Hyraceum* (q.v.) is found.

DAMAR, *dâ-mâr'*: town of Yemen, Arabia, about 120 m. n.n.w. of Aden. It has about 5,000 houses.

DAMARALAND, *da-mâ'rá-land*: inland territory in the west of s. Africa, n. of Namaqualand (q.v.) and s. of Ovampoland proper. But the latter name is often used as including Damaraland; so at the article OVAMPOS (q.v.) AND OVAMPOLAND.

DAMASCENE, n. *dām'ă-sēn* [from *Damascus* in Syria]: a particuilar kind of plum, now written *damson*. DAMASK, n. *dām'ăsk*, figured silk or linen; a red color: V. to form flowers on cloth; to variegate. DAMASK-STITCH, name given to satin-stitch when worked upon a linen foundation. DAM'ASKING, imp. *-ăsk'ing*. DAM'ASKED, pp. *-ăskt*. DAM'-ASKEEN, v. *-ăsk-kēn*, or DAM'ASCENE, v. *-ăs-sēn*, to produce Damascus blades having a many-colored watered appearance; to etch slight ornaments on polished steel wares; to inlay steel or iron with gold and silver. DAM'ASKEE'NING, imp. *-kē'nīng*: N. the act of beautifying iron or steel by engraving, or by inlaying with gold or silver. DAM'ASKEENED, pp. *kēnd*. DAM'ASKINS, n. plu. *-ăsk-kīnz*, Damascus blades.

DAMASCENUS—DAMASCUS.

DAM'ASSIN, n. -*ās-sīn*, damask cloth interwoven with flowers in gold and silver. DAMASCENE-LACE, an imitation of Honiton lace, and made with lace braid and lace sprigs joined together with corded bars. The difference between it and modern point lace, which it closely resembles, is in the introduction into Damascene of real Honiton sprigs, and the absence of any needle-work fillings.

DAMASCENUS, *dam as-sē'nūs*, JOANNES: abt. 700—abt. 756; b. Damascus: author of the standard text-book of Dogmatic Theology in the Greek Church. On account of his eloquence, he was surnamed *Chrysorrhoeas* ('Golden Stream'). In 730, he became a monk in the convent of St. Saba at Jerusalem, where he spent the rest of his days in the composition of theological works. He had the honor of being canonized by both the Latin and Greek churches. D. was a man of extensive erudition, and was considered the ablest philosopher of his time; but the word 'philosopher' must have meant something very different in those days from what it does now, as D.'s writings are characterized by weakness of judgment and want of critical power. The best edition is that of Le Quien (2 vols. Paris 1712).

DAMASCUS, *da-mās'kūs* (Arabic *Dimishkesh-Shām*): city of Syria, largest in Asiatic Turkey, in a situation of unrivalled beauty on a luxuriant plain at the e. base of the Anti-Libanus, 53 m. e.s.e. of Beyrout, which forms its port; lat. 33° 27' n., long. 36° 23' e. The appearance of the city from a distance is beautiful in the highest degree. The bright buildings, sparkling beneath a Syrian sun, rise out of a sea of various tinted foliage, while all around—save on the n.w., where stretches the long bare snow-white ridge of the Anti-Lebanon—extend charming gardens, rich wheat-fields, and blooming orchards, with the river Barada (the Abana of Scripture) and its branches winding through until they lose themselves far to the e. in the Lake Bahr-el-Merj, into which the Phege (the Pharpar of Scripture), a smaller stream, also flows. As in the case of all eastern cities, the expectations excited by a distant view of D. are by no means realized on a close inspection. The city proper is about 6 m. in circumference, partly surrounded by old dilapidated walls, portions of which date from early Roman times, while other parts are of Saracenic architecture, and some mere mud-patches of the present day. The streets generally are dirty and decayed, and so very narrow that a loaded donkey almost entirely blocks the passage. The best street is 'Straight Street,' mentioned in the Acts of the Apostles in connection with the apostle Paul. The houses for the most part are very mean-looking structures, often presenting to the street nothing but a dead-wall with a doorway in it, while the best have rough mud-walls, with a projecting upper story extending so far over the narrow street that hands may be shaken from opposite windows. But as the interior of the city presents a sad contrast to its charming surroundings; so do the rich interiors of the houses contrast with their miserable externals. Fine marble-paved courts ornamented with trees,

DAMASCUS.

shrubs, and fountains, rooms with arabesqued roofs and walls, most luxuriously furnished, are common features of all the dwellings of the wealthier classes. The principal buildings of D. are places of worship, chief of which is the Great Mosque—formerly a heathen temple, then a Christian church—composed of different kinds of architecture, and occupying a quadrangle 163 yards by 108 yards, the interior dimensions being 431 ft. by 125. The floor is of marble tessellated, and covered with Persian carpets, and the walls and piers of the transept are enriched with beautiful devices formed of various colored marbles, while rows of noble Corinthian pillars divide the interior into nave and aisles. Altogether, this is one of the handsomest ecclesiastical buildings of which Mohammedans can boast. The citadel is large and imposing, but not strong; and the Great Khan is a splendid building, of black and white marble. There are many interesting remains of antiquity in D., but they are lost amid the mean modern structures and the bazaars. The latter are numerous, and finer than those of Cairo or Constantinople, and very well supplied with goods of oriental manufacture; each class of goods having a bazaar for itself. The manufactures of D. used to be important, consisting of silks, cottons, coarse woolen cloth, jewelry, saddlery, and arms; but the productions now are little more than sufficient for local consumption. Before 1860 the looms were reckoned at 3,000, while now they are said to reach barely 1,300. The manufactures of the famous Damascene blades have long ceased. This decline is caused chiefly by the taxation upon raw products. The trade with Bagdad was large; but in 1857 the caravan was plundered on its way across the desert, the loss to the merchants of D. being estimated at \$200,000. This paralyzed the commerce. The annual caravan to Mecca from D. at one time consisted of some 50,000 or 60,000 persons, most of whom engaged to some extent in trade; but the facilities which in recent years have been afforded for making the pilgrimage by way of Egypt and the Red Sea has caused considerable diminution in the pilgrims, and consequently in the trade. One of the greatest blows at the prosperity of D. was struck in 1860, when the Druses (q.v.) entered the city and destroyed about 6,000 houses in the Christian quarter, killing from 3,000 to 5,000 persons, and selling many of the women into Turkish harems. The imports of British goods, chiefly plain and printed calicoes, cotton handkerchiefs, and cotton yarn, have been valued at £150,000. In 1870 the value of the goods brought into D. by the great (Bagdad) caravan was £90,000.

D. is perhaps the most ancient city in the world. Josephus attributes its foundation to Uz, great-grandson of Noah; but whether it dates so far back or not, it is certain that it was a place of consequence in the days of Abraham. During the time of the Hebrew monarchy, it was the capital of Syria. It afterward passed successively under the rule of the Assyrians, Persians, Macedonians, Romans, and Saracens; and finally, 1516, it was captured by the Turks under Sultan Selim I.—in whose hands, with the

DAMASCUS BLADE—DAMASK.

exception of a short interval (1832-40), when it belonged to the pasha of Egypt, it has since remained. Under every change of dynasty and every form of government, D., unlike most cities, has retained its prosperity. Pop., including the adjoining village of Salahîyeh, 225,000; 130,000 are Mohammedans, 15,000 Christians, and 5,000 Jews.

The vilayet of DAMASCUS comprises all the territory between the Lebanon and the Euphrates—that is, all between lat. 31° – 36° n., and long. 35° – 41° e. The surface is mostly level and very fertile, and produces grain of various kinds, hemp, flax, silk, cotton, madder, tobacco, and cochineal. The vilayet of D.—or of Syria, as it is also called—is accounted the most important vilayet of Turkey. Pop. 518,750.

DAMAS'CUS BLADE: see DAMASKEENING.

DAM'ASK: any textile fabric in which figures of flowers, fruits, or others not of geometrical regularity, are woven. The word is supposed to be derived from the city of Damascus having been an early seat of these manufactures. From the intricacy of the early process, the art of D. weaving was long a mystery confined to a few localities; but since the introduction of the Jacquard machine, it is extensively employed wherever ornament is wanted in the stuffs used for dress or house-furnishings. The rich satins and brocades of Lyon and Spitalfields, the flowered ribbons of Coventry, and the bed and window curtains of Halifax and Bradford, are all examples of D. manufacture; but it is in the department of table-linen that the art has had its widest scope and greatest triumphs. The principal seats of the manufacture, on the continent of Europe, are at Courtrai and Liege in Belgium, and in some parts of Saxony, Silesia, and Austria; in England, to a considerable extent at Barnsley, in Yorkshire; in Ireland, at Belfast, Lisburne, and Ardoyne; and in Scotland, at Dunfermline, which may be called the metropolis of the manufacture.

There are three descriptions of D. known in the trade—viz., 1. Full Harness, which is generally employed in patterns of limited size and minute detail, the peculiarity being that the Jacquard machine lifts only one thread by each needle, and in such cases the pattern is repeated to fill up the breadth wanted. 2. 'Single' or 'Common' D., in which any number of threads, from two to seven, can be lifted by one needle, to form the pattern; while the ground is produced by a set of five shafts and heddles, giving from twice to seven times the extent of pattern obtained from the same machine by the full-harness process. In full-harness and single D. goods, a square fabric is considered the proper medium, that is, the warp and weft equal; but sometimes a thread or two less or more on warp or weft is used, according to the effect to be produced. 3. In Double D., the pattern is produced in the same way as in single, and the ground formed by eight shafts and heddles, forming what the weavers call an eight-leaved twill, absorbing one-half more weft than warp, and

DAMASKEENING—DAMASONIUM.

giving that fine satin-like ground which distinguishes double damask. Besides these descriptions of D., a mixed cotton and woolen colored fabric in table-covers has been introduced, and is now manufactured extensively, the ground of which is woven with twelve shafts.

It is quite usual for the mere designing and painting of a pattern to cost \$250; and \$350 has been paid for some extensive designs; while the famous 'Crimean Hero' pattern, containing portraits of the Queen, Prince Consort, Emperor Napoleon, etc., cost \$3,000 of outlay, ere a yard of cloth could be brought to market, employing seven Jacquard machines, consuming 50,000 cards, and containing 4,800 threads in the sq. yard. In 1836, there were in Dunfermline 3,000 D. and 517 diaper looms, and the capital embarked in the trade was estimated at £826,261, and the total number of persons employed, 5,044. Steam-power was successfully introduced in 1849, when one factory employed about 100 power-looms. In 1877, there were 11 power-loom factories, with 4,000 looms, two-thirds employed in the weaving of damask. When it is considered that the production of one power-loom is equal to that of four hand-looms, some idea may be formed of the development of the trade since 1836.—A good description of D. and the D. loom is in Chalmers's *History of Dunfermline* I. II.

DAMASKEENING, *dām-ās-kē'nīng*, or DAMASCENING, *-sē'nīng*: art of producing upon ordinary steel certain ornamental appearances resembling those observed on the famous Damascus blades. Attention was drawn to this branch of industry first by the Crusaders, who brought from Damascus to Europe many articles made of superior steel, such as sword-blades and daggers. These were found to possess not only great elasticity, united with considerable hardness, but their surfaces were covered with beautiful designs, formed by a tissue of dark lines on a light ground, or light lines upon a dark ground, and occasionally by the inlaying of gold on the steel-blue ground. These Damascus blades appear to have been constructed of steel and iron welded together; and the elegant designs were brought out by immersing the blades in dilute acids, which, eating away unequally the surface, gave rise to the mottled appearance. In genuine Damascus blades, the designs run through the substance of the blade, and the *watering*, or regular, almost symmetrical figuring, is not worn off by friction or even grinding. Imitations of the watering of Damascus steel are produced on common steel by etching with acids; and in this way landscapes, inscriptions, and ornaments, and decorations in general, are imprinted on the steel-blue ground. Gold and silver also are inlaid in the higher class of sword-blades and other articles. Gun-barrels are occasionally subjected to the process of Damaskeening. Attempts have been made in France to accomplish damaskeening by means of photography, but as yet with imperfect results.

DAMASONIUM, n. *dām-a-sō'nī-ūm* [mod. L. — from class L. *damasoneon*; Gr. *damasōnion*, the plant described in the definition]: genus of *Alismaceæ*, formed for the re-

DAMASUS—DAME.

ception of the star-fruit, of which the more common scientific name is *Actinocarpus Damasonium*.

DAMASUS, *dam'a-sus*, **SAINT**: Bishop of Rome: a Spaniard, born probably early in the 4th c.; d. 884. In 866, he was elected Bp. of Rome, but had to struggle fiercely for the possession of his office with one Ursinus, who was supported by a considerable party. His career throughout was far from peaceful. He was busied mainly in subduing the still numerous Arians in the west; in combating the heresy of Apollinaris, which he caused to be condemned by the council assembled at Constantinople 382; and in defending the cause of Paulinus against Meletius. It is difficult to form a just estimate of D.'s character. His enemies used to call him *Auriscalpius Matronarum* ('The ear-tickler of the married ladies'), and hinted that he was in the habit of inducing rich female penitents to make testamentary bequests in his favor—a conspicuous vice of the clergy at that time; so much so, indeed, that Valentinian was obliged to issue an edict forbidding ecclesiastics to receive such bequests for the future. The edict was addressed to D., who was required to announce it to the church. On the other hand, he was a great friend of St. Jerome, and was primarily instrumental in inducing that learned divine to undertake a new translation of the Bible. His extant works consist of seven epistles, addressed to various bishops, and rather more than 40 short poems, religious, descriptive, etc., but of little or no merit. The first edition was published at Rome by Sarrazanius, 1638. D.'s festival is on Dec. 11.

DAMBOOL, *dām-ból'*: vast rock-temple of the Buddhists in Ceylon, containing, among a profusion of carvings, figures of Buddha of extraordinary magnitude. There are also important inscriptions. The village of D. is 40 m. n. of Kandy. See *Ceylon*, by Sir J. Emerson Tennent (Lond. 1859), II, 577.

DAME, n. *dām* [It. *dama*; F. *dame*, a lady—from L. *domīnā*, a lady]: title of honor which in England long distinguished high-born ladies from the wives of citizens, and of the commonalty in general. In the age of chivalry, it was customary even for a queen to be so called by her chosen knight ('the dame of his heart, of his thoughts,' etc.). In consequence of the greater courtesy shown toward women of higher rank arose the custom of prefixing the word *ma* to *dame*, as a special proof of veneration and homage. Hence, too, the Virgin-mother was called in France *Notre Dame* ('Our Mistress,' or Lady, as if no one Christian could exclusively claim the privilege of serving her with the homage of his heart). The daughters of the king of France, as soon as they came into the world, were called *Madame*; and this was also the sole title of the wife of the king's eldest brother. In England, the word D., though not much used, is now applied to married women of all classes. In the United States it is seldom heard. *Madame* is shortened into *Madam*, which is still a word of honor, applicable, in particular cases, to majesty itself.

DAME'S VIOLET—DAMIENS.

Thus, Alfred Tennyson, in dedicating his poems to Queen Victoria, speaks as a chivalrous troubadour might have done—

'Take, *Madam*, this poor book of song.'

DAME-SCHOOL; an elementary school taught by a female who is not a professional or certificated teacher.

DAME'S VIOLET (*Hesperis*): genus of plants of the nat. ord. *Cruciferae*, having four sided or two-edged pods, and containing several species, annual and biennial herbaceous plants, natives, chiefly, of the middle and south of Europe. One, the COMMON D. V., or WHITE ROCKET (*H. matronalis*), is found in Britain, in hilly pastures, but perhaps rather escaped from cultivation than a true native. It has an erect branched stem, with ovato-lanceolate leaves, and terminated by numerous large lilac flowers, scentless by day, but very fragrant at night, on which account this plant is cultivated in flower-pots by German ladies. The custom appears to have been an old English one also, and to have given the plant its common name. The NIGHT-SCENTED ROCKET (*H. tristis*) is also a favorite flower in Germany.



Dame's Violet:

a, a flower divested of calyx and corolla; *b*, a petal; *c*, calyx.

DAMIANISTS, *dā'mī-an-ists*, or ANGELISTS: sect who followed Damianus (d. 601), Patriarch of Alexandria. He held monophysite views, and his doctrine of the Trinity was essentially Sabellian. The D. were called by their opponents Tetradites, as having four gods—the Father, the Son, the Spirit, and the Divine Being in which the three former were united.

DAMIENS, *dā-me-äng'* or *dā'mī-ěnz'*, ROBERT FRANÇOIS: 1714–57; b. Ticulloy, village near Arras, France: known for his attempt to assassinate Louis XV. He was evil disposed from his youth, known even then as *Robert le Diable*. On account of a robbery which he had committed, he fled into Belgium 1756, whence he returned to Paris about the end of the year. The motives of his attempt at assassination are not well understood. He alleged that it was the conduct of the king toward the parliament; the popular, but apparently groundless, opinion was that he was instigated by the Jesuits. 1757, Jan. 5, having gone to Versailles on the previous day, he assiduously followed the king and his courtiers about everywhere; and about six o'clock at night, when the king was entering his carriage to leave Trianon, he stabbed him. The king recognized his assassin, and D. was seized. The punishment inflicted on him was horrible. The hand by which he attempted the murder was burned at a slow fire; the fleshy parts of

DAMIETTA—DAMMAR.

his body were then torn off by pincers; and, finally, he was dragged about for an hour by four strong horses, while into his numerous wounds were poured molten lead, resin, oil, and boiling wax. Toward night the wretch expired, having kept his resolution of not confessing who were his accomplices—if, indeed, he had any. His remains were immediately burned, his house was destroyed, his father, wife, and daughter were banished from France forever, and his brothers and sisters compelled to change their names.

DAMIETTA, *dăm-ě-ě'tta*: town of Lower Egypt, on the right bank of the chief of the Nile's branches, about 8 m. from its mouth in the Mediterranean; lat. $31^{\circ} 25' \text{ n.}$, long. $31^{\circ} 49' \text{ e.}$ It is in general ill and irregularly built, but has some handsome mosques and marble baths, and several bazaars. Its commerce has been much injured by the prosperity of Alexandria. It still has considerable trade in exporting rice, which grows abundantly in the neighborhood, fish (from Lake Menzalch), coffee, and dates; and imports charcoal, soap, and manufactured goods. **D.** (native *Damiat*) is connected by railway with Cairo, etc. The cloth known as *dimity* received its name from **D.**, where first it was manufactured. A bar at the mouth of the river prevents vessels of more than 50 or 60 tons from ascending to Damietta. The existing town was erected about 1251, but, prior to that, a city of the same name (more anciently Tamiáthis) stood about 4 m. to the south. It was strongly fortified by the Saracens, and formed on that side the bulwark of Egypt against the early Crusaders, who, however, succeeded in capturing it more than once. It was razed, and rebuilt farther inland on the present site, by the sultan Baybers. Pop. 37,100.

DAMMAR, *n. dăm'mâr* [the native name]: oleo-resinous substance, obtained from certain trees; called also 'piney-resin,' 'Indian copal,' or 'gum anime.'—*Dammar* or *Dammar Pine* (*Dammara*) is the name also of a genus of trees of the nat. ord. *Coniferae*, distinguished from all the rest of that order by their broad lanceolate leathery leaves, which have numerous nearly parallel veins, and by their seeds being winged, not at the end, but on one side. The tree from which the name, originally applied to its resinous product, has been extended to the whole genus, is the **MOLUCCAN D.** (*D. orientalis*), which grows on the high mountain-ridges of the Molucca Islands. It grows to great height, attains a diameter of 9 ft., and generally has the lower part of the trunk beset with knots as large as a man's head. The timber is light and of inferior quality; and the tree is valuable chiefly for its resin, which is soft, transparent, hardens in a few days, and is then white, with a crystalline appearance. The resin often flows spontaneously from the tree in such quantity that it hangs in masses like icicles of a hand-breadth and a foot long. At another period of the year, it is yellow, and less valued. By incision, especially in the protuberances of the stem, it is obtained in large pieces. So long as *Dammar Resin* is

DAMMUDAH.

soft it has a strong smell, which it loses when dry. It contains only a trace of volatile oil, but consists of two distinct resins, one soluble in alcohol, the other not. It is light, brittle, and easily friable, readily soluble in oil of turpentine; quickly becomes viscid when heated; when sprinkled on burning coal, diffuses an odor like that of rosin or mastich; readily takes fire, and burns with much smoke and a somewhat acid smell. It is used in Asia for domestic purposes, and in the arts like other resins; it is an article of commerce, and in Europe is used in various ways to form varnishes, which dry quickly, have a very bright lustre, and, being colorless, allow the beauty of the colors over which they are spread to be perfectly seen; but readily become viscid again, and are not permanent, so that this resin cannot be made a substitute for copal and amber. It is almost completely soluble in benzole, and in this solvent makes an excellent colorless varnish for positive photographs on glass—it is, however, scarcely hard enough for negatives.—To this genus belongs also the KAURI PINE (q.v.) of New Zealand (*D. australis*), which produces the resin known as *Kauri Resin*, or *Kauri Gum*.—The word *Dammar*, *Dammer*, or *Damar*, signifies *resin* in some of the languages of India. The resin known as BLACK DAMMAR is obtained in the Molucca Islands from the trunk of *Marignia acutifolia*, a tree of the nat. ord. *Amyridaceæ*. It is a semi-fluid soft resin, with a strong smell, becoming black when it dries: it is used as pitch, also to yield a kind of turpentine obtained by distillation.—*Canarium microcarpum*, tree of the same order, also native of the furthest east, yields, by incision of the trunk, a viscid, odorous, yellowish substance very similar to Balsam of Copaiva, which is called *Damar* or *Dammar*, and is used in naval yards as oakum, being mixed with a little chalk and the bark of reeds, and becomes as hard as a stone.—Quite distinct from all these is the resin also called *Dammar* or *Piney Dammar* in India, often also called Copal (q.v.) in India, and *Anime* (q.v.) in Britain, the produce of *Vateria Indica*, a large tree of the nat. ord. *Dipteraceæ*. It is obtained by wounding the tree, and when fresh is clear, fragrant, and acridly bitter; when dried it becomes yellow, brittle, and glass-like. It is used in India as a varnish (*Piney Varnish*), hard, tenacious, and much esteemed. It is also made into candles in Malabar, which, in burning, give an agreeable fragrance, and a clear light with little smoke. *Shorea robusta*, the Sal (q.v.), so much valued in India as a timber-tree, also of the nat. ord. *Dipteraceæ*, and some other species of *Shorea*, yield a resin also known as *Dammar*, and as *Ral* and *Dhoona*, much used in dock-yards in India as pitch.

DAMMUDAH, *dăm-mô'dá*, or DUMMO'DAH: river of India, rises in Ramgurb, a district in the presidency of Bengal, about lat. 23° 55' n., and long. 84° 53' e. After a generally s.e. course of 350 m., it enters the Hoogly from the right, in lat. 22° 13' n., and long. 88° 7' e. The valley of the D.—traversed by the main railway between Calcutta and the n.w. (the E. Indian railway)—abounds in coal and

DAMN—DAMP.

iron; and competent judges have calculated that bar-iron may here be manufactured 20 per cent. cheaper than it can be imported from Great Britain.

DAMN, v. *dām* [F. *damner*, to condemn—from L. *damnāre*, to condemn—from *damnum*, loss, harm]:*to sentence to misery in the future world; to condemn; to condemn as bad or displeasing, as a play by hissing. **DAMN'ING**, imp. -ing. **DAMNED**, pp. *dāmd*: **ADJ.** sentenced to future punishment; condemned; hateful. **DAM'NABLE**, a. -*nā-bl*, [F.—L.]: deserving damnation, or leading to it; odious. **DAM'NABLY**, ad. -*blī*. **DAM'NABLENESS**, n. -*nā-bl-nēs*, the state or quality of deserving damnation. **DAMNA'TION**, n. -*nā'shūn* [F.—L.]: condemnation; sentence to everlasting punishment. **DAM'NATORY**, a. -*nā-tér-ī*, tending to condemn; containing a sentence of condemnation. **DAMNIF'IC**, a. -*nīf'īk* [L. *fiō*, I become]: causing loss; injurious. **DAM'NIFY**, v. -*nīfī*, to inflict damage on any one; to injure; to impair.

DAMOCLES, *dām'ō-klēz*: one of the courtiers and sycophants of the elder Dionysius, the tyrant of Syracuse. It is recorded by Cicero that D., having lauded in the highest terms the grandeur and happiness of royalty, was reproved by Dionysius in a singular manner. The sycophant was seated at a table, richly spread and surrounded by all the furniture of royalty, but in the midst of his luxurious banquet, looking upward, he saw a keen-edged sword suspended over his head by a single horse-hair, emblem of the constant danger that attends the possession of power. **DAMOCLES' SWORD**, a dreaded and ever-present danger.

DAMONICO, n. *da-mōn'ī-ko* [It.]: compound of terra di Sienna and Roman ochre, burnt and having all their qualities; it is rather more russet in hue than the orange de Mars, has considerable transparency, and is rich and durable in color.

DAMON, *dā'mon*, **AND PYTHIAS**, *pīth'i-as* (or **PHINTIAS**, *fīn'tī-as*): two noble Pythagoreans of Syracuse, models of faithful friendship. Pythias having been condemned to death by Dionysius the tyrant of Syracuse, begged to be allowed to go home, for the purpose of arranging his affairs, Damon pledging his own life for the reappearance of his friend. Dionysius consented, and Pythias returned just in time to save Damon from death. Struck by so noble an example of mutual affection, the tyrant pardoned Pythias, and desired to be admitted into their sacred fellowship.

DAMP, a. *dāmp* [Ger. *dampf*, short wind, vapor, steam; *dämpfen*, to suffocate: Dut. *dampen*; Sw. *dampa*, to extinguish a light, to repress—*lit*, close and confined, as causing humidity]: in a state between dry and wet; moist; humid: N. moist air; moisture; fog; vapor; depression of spirits; dejection: V. to moisten; to make slightly wet; to depress or discourage; to weaken; to check or restrain. **DAMP'ING**, imp. **DAMPED**, pp. *dāmpt*. **DAM'PER**, n. that which damps or checks; a movable iron plate acting as a door or valve, rising, falling, sliding, or turning in a flue or

DAMPIER—DAMPIER ARCHIPELAGO.

chimney to reduce its size at pleasure, and thus by checking the flow of air to 'damp' or reduce the combustion: in *Australia*, etc., a simple kind of scone or unleavened bread, of wheat flour; in a *locomotive engine*, a kind of iron valve fixed to the smoke-box end of the boiler, which is shut down when the engine is standing, and opened when it is running; an apparatus (1) for checking the vibrations of a magnetic needle, (2) for moderating the vibrations of the wires of a pianoforte after a key is struck, and the finger is lifted from the key, immediately stopping the vibration of the string. It consists of a second hammer, which, on the rising of the key, strikes the string and remains upon it, instead of bounding off as the sounding-hammer does. Perfect damping, always desirable, is not always obtained, especially in upright pianofortes of the older make. In respect of damping, the pianofortes of the German makers are superior to the English. The more perfect the damping is, the more distinctly and clearly the passages and harmony are heard, while the instrument gains in purity of tone, when there is none of that confusion of sounds which arises from imperfect damping. DAMPS, n. plu. noxious vapors issuing from the earth, as from old wells or pits. DAMP'NESS, n. moisture; humidity. CHOKE-DAMP, *chōk*-, the carbonic-acid gas, fatal to animal life, which is generated in close and confined places, as coal-pits, cellars, wells, etc. FIRE-DAMP, the inflammable gas generated in coal-pits; marsh-gas or light carburetted hydrogen. DAMP'EN, v. -*ēn*-, to make damp or moist. DAMPENING, imp. *dāmp'nīng*. DAMP'ENED, pp. -*ēnd*-. DAMP'ISH, a. -*ish*-, moderately damp or moist. DAMP'ISHLY, ad. -*lī*-. DAMP'ISHNESS, n. a moderate degree of damp; slight moisture.

DAMPIER, *dāmp'pēr*, WILLIAM: b. 1653, of a Somersetshire family: English navigator. He early went to sea, and with a party of buccaneers D. crossed the Isthmus of Darien 1679, and embarking on the Pacific in canoes and similar small craft, captured several Spanish vessels, in which they cruised along the coast of Spanish America, waging war with the Spanish subjects. In 1684, D. engaged in another buccaneering expedition, in which he coasted along the shores of Chili, Peru, and Mexico, sailing thence to the E. Indies, touching at Australia, and after some time returning to England, where, 1691, he published an interesting account of the expedition, entitled *A Voyage Round the World*. He was afterward deputed by govt. to conduct a voyage of discovery to the South Seas, in which he explored the w. and n.w. coasts of Australia, also the coasts of New Guinea, New Britain, and New Ireland, giving his name to the Dampier Archipelago and Strait (q.v.). The events of the latter part of D.'s life are not well known. Besides one above mentioned, the following are his principal works: *Voyages to the Bay of Campeachy* (Lond. 1729); *A Treatise on Winds and Tides*; and a *Vindication of his Voyage to the South Sea in the Ship St. George* (1707).

DAMPIER ARCHIPELAGO, AND STRAIT: named

DAMPING OFF—DAMSON.

from the famous navigator and buccaneer William Dampier (q.v.).

The *Archipelago* is off the n.w. coast of Australia, about lat. 21° s., and long. 117° e. The principal islands of the cluster are Enderby, Lewis, Rosemary, Legendre, and Depuch.

The *Strait*, 35 m. wide, separates the island of Waygiou from the n.w. extremity of Papua or New Guinea, lying almost immediately under the equator, and about long. 131° e.; thus, as nearly as possible, the antipodes of the mouth of the Amazon.

DAMPING OFF, in Horticulture: death of plants from excess of moisture in the soil and atmosphere. Young seedlings in stove-houses and hotbeds are particularly liable to it. Although the cause is obvious, prevention is not always easy; not only because some plants are very sensitive as to moisture, but also because the necessity of keeping sashes closed on account of temperature often stands in the way of desirable ventilation, and it is when a moist atmosphere stagnates around plants, and the temperature is not very low, that they are most liable to damp off.

DAMROSCH, *dām'rosh*, LEOPOLD, M.D.: 1832, Oct. 22—1885, Feb. 15; b. Posen, Prussia: musician. He took his degree in medicine at the Univ. of Berlin 1854, but applied himself to the study of music and attained wide popularity as a violinist. Liszt appointed him sole violinist in the ducal orchestra at Weimar, 1856, and he became leader of the Philharmonic Soc. of Breslau 1858. He conducted its concerts with success three years, then founded a symphonic soc. of 80 instrumentalists with which he remained till 1871, when he removed to New York and assumed the directorship of the Arion singing soc., with which he made his first American appearance, 1871, May 6. In 1873, he founded the New York Oratorio Soc., which produced the chief works of Bach, Beethoven, Brahm, Handel, Haydn, Mendelssohn, and Mozart under his direction, and with full orchestral accompaniment; 1878, organized the New York Symphony Soc.; 1881, May 3-7, gave a memorable musical festival with the aid of both societies; and 1884, became director of the new Metropolitan Opera-house. He composed a number of violin concertos, 12 books of song, and the *Fest Overture*, *Ruth and Naomi*.

DAMSEL, n. *dām'zēl* [F. *demoiselle*, a young lady—from OF. *damoiselle*, fem. of OF. *damoisel*, a young man: It. *damigella*, dim. of *dama*, a lady—from L. *dominā*, a lady]: a young unmarried woman; a maiden; a girl.

DAMSON, n. *dām'zn* [from *damascene*, the *Damascus* plum]: rather small oval-fruited variety of the common plum, much esteemed for preserving, and not wholly unfit for dessert. The tree grows to considerable height, but has a bushy, sloe-like appearance. It is extremely fruitful. There are many sub-varieties, with fruit of different colors, dark purple, bluish, black, yellow, etc. The **MOUNTAIN D.** or **BITTER D.** of the West Indies is the *Simaruba* (q.v.).

DAMUGGOO—DAN.

DAMUGGOO, *dá-mŭg-gó'*: large and populous town of Upper Guinea, Africa, on the left bank of the Niger; lat. 7° n., long. 7° 50' e. The houses, built of mud, and supported by wooden props, are circular in shape. The town is dirty, and has a miserable appearance. The population, of number not known, support themselves by trade and cultivation of the soil.

DAN, n. *dăn* [Sp. *don*; F. *dom*, sir, lord — from L. *dominus*, lord: Icel. *dan*, lord: Gael. *duine*, a man]: in *OE.*, applied as a title of honor to men; sir; master; latterly applied in a jocular way.

DAN: city in the n. of Palestine, e. of the springs of Jordan, s. of Mount Lebanon; built by the Canaanites and originally called Laish or Leshem. After the close of Joshua's wars the city had a period of quietness and prosperity till a tribe of Danites who lived about 140 m. to the s.w., assaulted and captured the city, set up a stolen graven image, and named the city after their ancestor. It was near D. that Abraham gained his victory over Chedorlaomer and the allies, and within the city that Jeroboam publicly established idolatry by erecting a golden calf. Nebuchadnezzar marched his troops through or past it when on his way to invade Judea, and it was laid waste by Benhadad, King of Syria. The familiar expression, 'from D. to Beersheba,' was used to denote the whole extent of the country, as D. was the most northern outpost and Beersheba the most southern city; in modern usage it means from one end of land to the other.

DAN: fifth son of Jacob and eldest son of Bilhah, Rachel's maid. He was credited with having but one son, Hushim, or Shuam, yet when the tribes came out of Egypt and were numbered near Sinai, the tribe of D. under command of Ahiezar amounted to 62,700 able-bodied men, and was the largest except that of Judah. While in the wilderness the tribe increased to 64,400 men. With the tribes of Asher and Naphtali, it formed the fourth division of the Hebrew camp. It was the last to receive the inheritance of land, and was given the smallest of the twelve portions, a tract n.w. of Judah, near the Mediterranean. The Amorites disputed this possession and occupied a large portion of it till the neighboring tribe of Ephraim aided the Danites to subdue them.

DANA.

DANA, dā'na, CHARLES ANDERSON: editor: 1819, Aug. 8—1897, Oct. 17; b. Hinsdale, N. H., descendant of Richard D. (d. Cambridge, Mass., 1695), who was progenitor of all of the name D. in the United States, and was (as is believed) son of a French Huguenot who settled in England 1629. The early part of his life was passed in Buffalo, N. Y., where he served as a clerk in a store, at the same time preparing for college. He was two years at Harvard, but left without graduating on account of serious trouble with his eyes. He was associated with George Ripley, George William Curtis, Channing, Dwight, Margaret Fuller, and others in the Brook Farm communistic experiment, and edited the *Harbinger*, which was a reform publication. D. became a member of the editorial staff of the N. Y. *Tribune* 1847, of which he became a stockholder and managing editor 1862. He disagreed with Mr. Greeley at the beginning of the war regarding the management of the paper, and resigned his position, being at once employed by Edwin M. Stanton in the war dept., and appointed asst. sec. of war 1863, a position which he held till the close of the war. He had editorial charge of the Chicago *Republican* for a short time, but returned to New York 1867 and organized the *Sun* publishing company, owning a majority of the stock and continuing editor-in-chief of the paper from that time. Besides his connection with daily journalism, D. has performed important work more directly literary. In particular he planned Appleton's *New American Cyclopædia*, and edited it 1853-63 in association with George Ripley, LL.D., editing also its revision 1873-76. He wrote a *Life of Ulysses S. Grant* (1868) in association with Gen. James H. Wilson, and edited the *Household Book of Poetry* (1857), which has passed through many editions.

DANA, dā'na, FRANCIS, LL.D.: jurist: 1743, June 13—1811, Apr. 25; b. Charlestown, Mass.: son of Judge Richard D. He graduated at Harvard 1762, was admitted to the bar 1767; joined the Sons of Liberty; was a delegate in the first provincial congress of Mass. 1774; bearer of confidential dispatches to his brother Edmund in London 1775; member of executive council of Mass. 1776-80; delegate to the continental congress which formed the confederation 1777, and to the congress 1778, in which he was chairman of the committee on the reorganization of the army; appointed sec. to John Adams (commissioner to negotiate peace with Great Britain) 1779; minister to Russia 1780-82. He returned home 1783, was appointed a judge of the Mass. supreme court 1785, elected delegate to the Annapolis convention 1786, the convention that adopted the federal constitution 1787, and the state convention that ratified it 1788; appointed chief justice of Mass. 1791, Nov. 29, and served till 1806. He was a federalist in politics, a founder of the American Acad. of Arts and Sciences, and father of Richard Henry D., the poet.

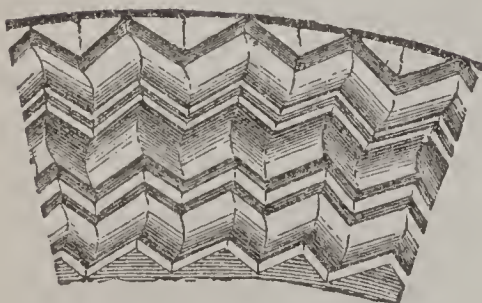
DANA, JAMES DWIGHT, PH.D., LL.D.: mineralogist: 1813, Feb. 12—1895, Apr. 14; b. Utica, N. Y. He graduated at Yale 1833; thereafter for two years was mathematical instructor of midshipmen in the U. S. navy afloat;



Dalmatic.



Branch of Dammar Pine. -



Dancette Molding.



Fess Dancetté.



Daphne Cneorum.

DANA.

asst. in chemistry to Prof. Silliman at Yale 1836-38; sailed with the Wilkes U. S. exploring expedition as mineralogist and geologist 1838, and served with the expedition till its return 1840; then was engaged 13 years in studying the mineralogical, geological, and zoological material brought home from the Southern and Pacific oceans, the results appearing in three 4to vols., with maps—viz., *Report on Zoophytes* (1846), *Report on the Geology of the Pacific*, etc. (1849), and *Report on Crustacea* (1852-54) all pub. by govt. He became Silliman prof. of nat. hist. at Yale 1855, and continued to hold the same chair, though its style has since 1864 been 'chair of geology and mineralogy.' After 1850 Dr. D. was one of the editors of the *American Journal of Science and Arts*. His services to natural science have been recognized by foreign learned academies and societies, by their electing him to their membership or awarding him medals of honor. Apart from contributions to periodical publications and to the proceedings of scientific societies, his published works are (besides the 3 vols. issued by the U. S. govt.): *A System of Mineralogy* (1837, 5th. ed. 1868); *Manual of Mineralogy* (1848, 4th ed. 1853); *Coral Reefs and Islands* (1853); *Manual of Geology* (1863, 3d ed. 1880); *Text-book of Geology* (1864, 4th ed. 1883); *The Geological Story Briefly Told* (1875).

DANA—DANAL.

DANA, RICHARD: 1699, July 7—1772, May 17; b. Cambridge, Mass.: lawyer. He graduated at Harvard college 1718, studied law, and settled in Boston to practice. He attained large distinction at the bar; was prominent in the patriotic movements preceding the revolutionary war, administered to the sec. of the Mass. province a special oath obligating him not to attempt to execute the obnoxious stamp-act 1769, investigated and reported on the massacre of citizens by British soldiers 1770, Mar. 5, presided frequently over the Boston town-meetings, was a leader among the Sons of Liberty, and a representative in the Mass. general assembly.

DANA, RICHARD HENRY: 1787—1879, Jan. 6; b. Cambridge, Mass.: poet and novelist. After three years at Harvard college, he adopted law as a profession, but eventually applied himself to literature. In 1817—20, he was a contributor to the *North American Review*, and assisted in its editorship. The *Idle Man*, which contains many of his best prose efforts, was a periodical commenced 1821, but was a commercial failure, soon discontinued. Having at an earlier date published the *Dying Raven*, a poem of merit, he came forward, in 1827, with the *Buccaneer*, and other poems, and in 1839 he delivered a series of lectures on Shakspeare.

DANA, RICHARD HENRY, LL.D.: legist and author; 1815, Aug. 1—1882, Jan. 7: b. Cambridge, Mass.; son of **RICHARD HENRY D.** He entered Harvard, but incurred suspension, then returned, but an affection of the eyes compelled him to quit study, though he graduated 1837. Meanwhile he shipped as a sailor on the brig *Pilgrim* for a voyage round Cape Horn: the fruit of this experience was his classic work *Two Years before the Mast*, 1839, republished with additions 1869. He studied law under Judge Story, was admitted to practice 1840, and the next year published his work on sea-usages and laws, *The Seaman's Friend*. He edited, with notes and textual additions, *Wheaton's International Law*, 1866. William Beach Lawrence, who also had annotated *Wheaton*, charged D. with pirating his notes; and because of that charge, unrefuted (as D. had no opportunity of explaining before the senate committee), the nomination of D. by Pres. Grant for minister to England was rejected by the senate, after Pres. Grant had refused to withdraw the nomination. If D. was chargeable with any error, it was not of intention. D. visited Europe 1878 to pursue his study of international law, intending an exhaustive treatise on that subject; he died at Rome and was buried in the Prot. cemetery there, near the graves of Shelley and Keats.

DANAÆ, n. *dăn'a-ē*: order of fern-like acrogens.

DANAE, *dăn'a-ē*: in ancient *myth.*, daughter of Acrisius, King of Argos, and Ocaleia. An oracle had announced that she would one day give birth to a son, who should kill his grandfather. Acrisius, of course, felt extremely uncomfortable after this declaration, and took every precaution to keep D. a virgin. He shut her up in a dungeon, where, nevertheless, she was visited by Zeus in a shower of

DANAIDE—DANBURY.

gold, and became, in consequence, the mother of Perseus. Acrisius put both the mother and child into a chest, and exposed them on the sea. The chest drifted ashore on the island of Seriphos, and D. and her child were saved. D. remained in the island until Perseus had grown up and become a hero famous for his exploits. She afterward accompanied him to Argos. On his arrival, Acrisius fled, but was slain accidentally by Perseus at Larissa.

DANAIDE, *da-nā'ī-dē* [from Danaüs (q.v.)]: machine for utilizing hydraulic power; consisting of two cylinders, one within the other, revolving on a vertical axis.

DANAIS, *n. dăn'ā-īs* [L. *Danaïs*, a daughter of Danaus, King of Argos]: genus of plants, ord. *Cinchonaceæ*, consisting of climbing and straggling shrubs, natives of Mauritius; in *entom.*, a genus of butterflies.

DANAUS, *dăn'a-ūs*, mythical personage, son of Belus and Anchinoë, brother of Ægyptus, and originally ruler of Libya. Thinking his life in danger from the machinations of his brother, he fled to Argos, accompanied by his 50 daughters, known as the **DANAIDES**, where he was chosen king, after the banishment of Gelanor, the last of the Inachidæ. The 50 sons of Ægyptus followed him, and, under the pretense of friendship, sought his daughters in marriage. D. consented, but on the bridal-night he gave his daughters each a dagger, and urged them to murder their bridegrooms in revenge for the treatment he had received from Ægyptus. All did so, except one, Hyperminestra, who allowed her betrothed, Lynceus, to escape. D., as may naturally be supposed, found great difficulty in obtaining new husbands for his daughters; and in order to get them off his hands, instituted games, where they were given as rewards to the victors, though they could scarcely have been considered very tempting prizes. As a punishment for their crime, they were compelled, in the under-world, to pour water forever into a vessel full of holes. So runs the myth; but Strabo mentions an old tradition, which declares D. and his 50 daughters to have provided Argos with water, which is probably the origin of the scene in Hades. Greek art, of course, represents the Danaides in conformity with the popular myth. The tomb of D., in the Agora of Argos, was shown as late as the time of Pausanias.

DANBURY, *dăn'bēr-ī*: town, one of the caps. of Fairfield co., Conn.; 20 m. n.w. of Bridgeport, 28 m. w. by n. of New Haven, 69 m. n.n.e. of New York; at the n. terminus of the D. and Norwalk railroad, and on a branch of the Housatonic line. A temporary settlement was made there 1684, a Congl. meeting-house was erected 1696, and for many years the place was known by the Indian name of Paliquioque. In 1776, the place was made a depository for army stores; and when Gen. Tryon, the British gov. of New York, was informed of the fact, he headed a force of over 2,000 men, landed at Norwalk 1777, Apr. 25, marched immediately upon D. and set fire to the town and stores, destroying 3,000 barrels of pork, over 1,000 barrels of flour,

DANBY—DANCE.

several hundred barrels of beef, 2,000 bushels of corn, 1,600 tents, and large quantities of rice, wine, and rum. The patriot Gen. Wooster hastened to the relief of D. from Fairfield, gave battle to the British at Ridgefield, and received a fatal wound. In 1780, Zadoc Benedict established in D. the first hat-factory in the United States, employed one journeyman and two apprentices, and produced three hats per day. From this has grown the enormous business which now distinguishes the town, gives employment two-thirds of its citizens, and is conducted in 12 or more factories on an aggregate capital of over \$1,500,000. The manufactures of shirts and sewing-machines are the other chief industries. D. has great business activity; has many handsome residences, a co. court-house; a public library, the gift of William A., Alexander M., and George G. White; 9 churches, the First and Second Congr., St. James's Prot. Episc., Meth. Episc., Bap., Disciples', Univ., St. Peter's Rom. Cath., and a Sandemanian; 2 national banks; 2 savings banks; the second largest graded school in the state; and 4 weekly newspapers. Pop. (1870) 6,542; (1880) 11,666; (1890) 16,552; (1900) 16,537.

DANBY, *dăn'bĩ*, FRANCIS, A.R.A.: 1793, Nov. 16—1861; b. abt. 6 m. from Wexford, Ireland: painter. He was educated in the school of the Soc. of Arts, Dublin, and soon gave indications of artistic talent. His first attempts were sent to the Dublin Exhibition. After 1820, he took up his residence at Bristol, whence he sent to the Royal Acad., London, his *Disappointed Love* (1821), *Warriors of the Olden Time listening to the Song of their Minstrel* (1823), and *Sunset at Sea after a Storm* (1824). In 1825, D. produced *The Delivery of Israel out of Egypt* (1826), *Christ Walking on the Sea* (1827), *The Embarkation of Cleopatra on the Cydnus* (1828-9), *An Attempt to Illustrate the Opening of the Seventh Seal*, *The Passage of the Red Sea*, and *The Deluge*. He resided on the continent 1829-41, during which interval he executed very few paintings. On his return, he took up his abode at Exmouth, where he died. Among his later works are *A Morning at Rhodes* (1841), *The Enchanted Island* (1841), *The Contest of the Lyre and Pipe in the Valley of Tempe* (1842), *The Tomb of Christ after the Resurrection*, *Fiensford Lake* (Norway)—*a Sudden Storm passing off*, *Caius Marius among the Ruins of Carthage* (1848), and *The Departure of Ulysses from Ithaca* (1854).

DANCE, v. *dăns* [F. *danser*, to dance—from O.H.G. *dansôn*: G. *tanzen*; Dan. *dandse*, to frisk, to dance; comp. Gael. *danns*, to dance—from *dan*, a musical composition]: to move or skip with the feet, keeping time to music; to move nimbly; to leap and frisk about; to move with measured steps. DAN'CING, imp. DANCED, pp. *dănsġt*. DAN'CER, n. -*sġr*, one who. DANCE, or DAN'CING, n. a leaping and frisking about; a measured stepping and jumping, nearly always to music; a graceful movement of the figure. To DANCE ATTENDANCE, to strive to gain favor by assiduous civilities and officious endeavors to please. To LEAD ONE A DANCE, to put one to much useless trouble.

DANCE—DANCE OF DEATH.

DANCE, GEORGE, Jr.: 1741–1825, Jan. 14; b. London: architect. He was an early member of the Royal Acad., and its prof. of architecture many years; succeeded his father, also an architect, as city surveyor of London 1768–1816; and built Newgate prison, Shakespeare gallery, Bath theatre, St. Luke's hospital, and the Guild-hall.

DANCE OF DEATH (L. *Chorea Machabæorum*, F. *La Danse Macabre*): class of allegorical representations, illustrative of the universal power of Death, and dating from the 14th c. When the introduction of Christianity first banished the ancient Germanic conception of a future state, a new description of death-mythology arose, partly out of biblical sources, partly out of the popular character itself, wherein the Last Enemy was represented under simple and majestic images, such as that of a husbandman watering the ground with blood, plowing it with swords, rooting out weeds, plucking up flowers, or felling trees, sowing it with corpses; or of a monarch assembling his armies, making war, taking prisoners, inviting his subjects to a festival, or citing them to judgment. But with a gradual change in national manners came a change in the mode of treating the subject, and it was associated with every-day images, such as the confessional, chess-playing, and, above all, with the adjuncts of a festival—viz., music and dancing. This tendency to familiarize the theme increased during the confusion and turmoil of the 14th c., when the national mind alternated between fits of devotion and license, or blent both elements in satire and humor. Such a mood as this naturally occupied itself with personifying Death, and adopted by preference the most startling and grotesque images it could find—that of a musician playing to dancing-men, or a dancer leading them on; and as the dance and the drama were then intimately connected, and employed on religious occasions, this particular idea soon assumed a dramatic form.

This drama was most simply constructed, consisting of short dialogues between Death and four-and-twenty or more followers, and was undoubtedly enacted in or near churches by religious orders in Germany during the 14th c., and at a rather later period in France. It would appear that the seven brothers, whose martyrdom is recorded 2 Maccabees, vii., either played an important part in the drama, or the first representation, at Paris in the Cloister 'aux Innocents,' fell upon their festival, and hence the origin of the ancient name, *Chorea Machabæorum*, or *La Danse Macabre*. As early as 1400, the dramatic poem was imitated in Spain, and appears there in 79 strophes of 8 lines each (*La Dança General de los Muertos*), but it did not spread; while the French, having a love for pictorial representation, very early affixed an illustration to each strophe, and in 1425 painted the whole series on the churchyard-wall of the Cloister of the Innocents, where the Dance of Death was habitually enacted. We find the subject treated

DANCE OF DEATH.

in painting, sculpture, and tapestry, in the churches of Anjou, Amiens, Angers, Rouen, to say nothing of the numerous wood-cuts and accompanying letter-press which succeeded the invention of printing. From Paris, both poem and pictures were transplanted to London (1430), Salisbury (about 1460), Wortley Hall in Gloucestershire, Hexham, etc.

But nowhere was the subject so variously and strikingly treated as in Germany. A picture in one of the chapels of the Marienkirche, at Lübeck, still, in spite of repeated repaintings, bearing the unmistakable impress of the 14th c., exhibits the very simplest form of the drama, and has some genuine Low-German verses attached to it. Here we see 24 figures, partly clerical, partly lay, arranged in a descending scale, from the pope himself down to a little child, and between each of them a dancing-figure of Death, not in the form of a skeleton, but a shrivelled corpse, the whole being linked in one chain, and dancing to the music of another Death. This representation is almost the same as a very ancient one at La Chaise-Dieu, in Auvergne, and points to the identity of the original dramatic spectacle in both countries.

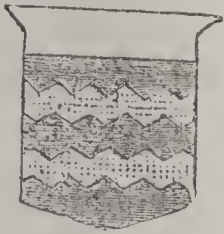
The celebrated Dance of Death on the cloister walls of the Klingenthal, a convent in Basel, though painted probably not later than 1312, exhibited a departure from the simplest form—the number of persons exceeding the original 24, and the chain being broken up into separate couples. But both alike are to be regarded only as scenes from a drama, and cannot, therefore, be justly compared with a contemporary Italian painting, the ‘Triumph of Death,’ by Andrea Orcagna. The acted drama endured till the 15th c.; and while there were varieties in the paintings, the poem, the most important feature, remained almost unchanged.

About the middle of the 15th c., however, the drama being altogether laid aside, the pictures became the main point of interest, the verses merely subsidiary. Accordingly, we find from this time the same pictures repeated in different places, with different verses, or no verses at all, till at length both verses and pictures entirely change their original character. The Dance of Death being transferred from the quiet convent walls into public places, gave a new impulse to popular art. Duke George of Saxony had, in 1534, the front of his Dresden castle ornamented with a life-size bas-relief of the subject, and other representations are to be found at Strasburg and Bern. There was a Dance of Death painted round the cloister of old St. Paul’s in London, in the reign of Henry VI.; and there is a sculptured one at Rouen, in the cemetery of St. Maclou. But Holbein has the credit of availing himself most effectively of the original design, and giving it a new and more artistic character. Departing from the idea of a dance, he illustrated the subject by 53 distinct sketches for engravings, which he called *Imagines Mortis*. The originals of these are at St. Petersburg, and impressions of them have been frequently repeated under different names.

DANCETTE—DANCING.

Authorities on this subject are: Peignot's *Recherches sur les Danses des Morts* (Dijon and Paris 1826); Massman's *Baseler Todtentänze* (Stuttgart 1847), and Douce's *The Dance of Death* (Lond. 1833).

DANCETTE, a. *dăn sět'* [F.—from the zigzag shape]: applied to a line of division intended in a manner similar to the zigzag molding in architecture: N. the zigzag or chevron fret or molding peculiar to Norman architecture.



Dancette.

DANCETTE, *dăn-sět'*: one of the lines of partition in Heraldry, which differs from indented (q.v.) only in the greater size of the notches. The indentations where the division is *per fess* dancette never exceed three in number.

DANCING: rhythmical movement of the body, especially of the lower limbs, usually keeping time to music. Dancing may also be said to be as old as the world, and prevails in rude as well as in civilized nations. Children dance, as the lower animals frisk and gambol, as by instinct. Early records, sacred and profane, make mention of dancing, and in most of the ancient nations it was a constituent part of their religious rights and ceremonies. They danced before their altars and round the statues of their gods. The Greek chorus, 'in the oldest times, consisted of the whole population of the city, who met in the public place (*choros*, the market-place), to offer up thanksgivings to their country's god, by singing hymns and performing corresponding dances.' The Jewish records make abundant mention of dancing. Miriam and the women of Israel danced to their song of triumph, with sound of timbrel, when the Israelites had passed through the Red Sea as on dry land; David danced before the Ark. It seems certain that the primitive Christians sometimes danced in their praises at their religious meetings, though we have no mention of this in the New Testament. The Greeks made the art of dancing into a system expressive of all the different passions, the dance of the Eumenides, or Furies, especially, exciting such terror that the spectators seemed to see these dreaded deities about to execute Heaven's vengeance on earth. The most eminent Greek sculptors did not disdain to study the attitudes of the public dancers for their art of imitating the passions. In Homer, we read of dancing and music at entertainments. Aristotle ranks dancing with poetry, and says, in his *Poetics*, that there are dancers who, by rhythm applied to gesture, express manners, passions, and actions. In Pindar, Apollo is called the dancer; and Jupiter himself, in a Greek line, is represented as in the act of dancing. The Spartans had a law obliging parents to exercise their children in dancing from the age of five. This was done in the public place, to train them for the armed-dance. They were led by grown men, and all sang hymns and songs as they danced. The young men danced the Pyrrhic dance, in four parts, expressive of overtaking an enemy and of a mock-fight.

DANCING MANIA.

Dancing, as an entertainment in private society, was performed in ancient times mostly by professional dancers, and not by the company themselves. Among the sedate Romans, in fact, it was considered disgraceful for a free citizen to dance, except in connection with religion. Having professional dancers at entertainments is still the practice among eastern nations. In Egypt there are dancing and singing girls, called *Almé*, who improvise verses as in Italy. They are highly educated, and no festival takes place without them. They are placed in a rostrum, and sing during the repast; then descend, and form dances that have no resemblance to ours. In all parts in India there are Nautch girls or Bayaderes (q.v.), who dance at festivals and solemnities.

Among savage nations the passion for dancing is most strongly manifested. Their dances are mostly associated with religion and war; and the performers work themselves into a state of frantic excitement—a kind of mechanical intoxication. As civilization advances, dancing—amateur dancing, at least—assumes a more and more subdued character. However common may be its misuse, it is capable of being made a healthful exercise. See ACROBATS: BALLET: PANTOMIME: COUNTRY-DANCE: QUADRILLE: POLKA: ETC.

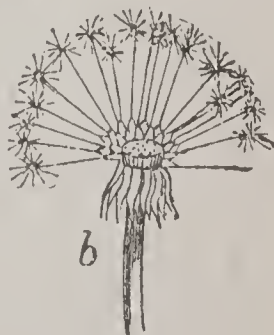
DAN'CING MA'NIA: form of epidemic disorder allied to hysteria (q.v.), evidently the result of imitative emotions acting upon susceptible subjects, under the influence of a craving for sympathy or notoriety. There is little doubt that imposture entered to a considerable extent into all the epidemic forms of the dancing mania, which indeed were usually attended and followed by consequences that showed too clearly impure motives; yet there is evidence that in many cases the convulsive movements were really beyond the control of the will, whatever may have been the original motives that prompted them. Epidemics of this sort were common in Germany during the middle ages, and are formally described as early as the 14th c.; in Italy, a somewhat similar disease was ascribed to the bite of a spider called the *Tarantula* (see TARANTISM); and similar convulsive affections have been witnessed in Abyssinia, India, and even in comparatively modern times and in the most civilized countries, under the influence of strong popular excitement, especially connected with religious demonstrations. But the true dancing mania of the middle ages had its theatre chiefly in the crowded cities of Germany.

In 1374, July, there appeared at Aix-la-Chapelle assemblies of men and women, who, excited by the wild and frantic, partly heathenish, celebration of the festival of St. John, began to dance on the streets, screaming and foaming like persons possessed. The attacks of this mania were various in form, according to mental, local, or religious conditions. The dancers, losing all control over their movements, continued dancing in wild delirium, till they fell in extreme exhaustion, and groaned as in the agonies of death; some dashed out their brains against walls. When dancing, they were insensible to external impressions, but haunted by

DANDELION.

visions, such as of being immersed in a sea of blood, which obliged them to leap so high, or of seeing the heavens open, and the Savior enthroned with the Virgin Mary. The frenzy spread over many towns of the Low Countries. Troops of dancers, inflamed by intoxicating music, and followed by crowds, who caught the mental infection, went from place to place, taking possession of the religious houses, and pouring forth imprecations against the priests. The mania spread to Cologne, Metz, and Strasburg, giving rise to many disorders, impostures, and profligacy. These countries were generally in a miserable condition; and arbitrary rule, corruption of morals, insecurity of property, and low priestcraft, prepared the wretched people, debilitated by disease and bad food, to seek relief in the intoxication of an artificial delirium. Exorcism had been found an efficacious remedy at the commencement of the outbreak; and in the beginning of the 16th c., Paracelsus, great reformer of medicine, applied immersion in cold water with great success. At the beginning of the 17th c., the St. Vitus's Dance, as the affection was then called (because the dancers were deemed possessed of the devil, and for cure were led in procession around the altar in the chapel of St. Vitus, in Rotestein) was already on the decline; and it is now known only in single cases as a sort of nervous affection (see CHOREA); though a few years ago, a case of the D. M. occurred in Ohio in connection with a sort of religious gathering, giving rise to a confusion which was suppressed by force. A detailed account of the phenomenon is given in Hecker's *Epidemics of the Middle Ages*. See CONVULSIONARIES.

DANDELION, n. *dăn'di-lî'ôn* [F. *dent*, tooth; *de*, of; *lion*, lion—*lit.*, the lion's tooth], (*Leontodon taraxacum*, or *Taraxacum officinale*): plant of the nat. ord. *Compositæ*, sub-order *Cichoraceæ*, common throughout Europe, in pastures and by waysides; and now so perfectly naturalized in many parts of North America, as to be there one of the most familiar spring-flowers. The names D. and *Leontodon* (Fr. and Ger. lion's-tooth) both have reference to the form of the leaves. The whole plant abounds in a milky juice, con-



Dandelion:

a, leaves, scape, and head of flowers; *b*, head of ripe fruit with pappus.

DANDER—DANDY.

ta^lning a peculiar crystalline principle called *Taraxacin* has a bitter taste, and is tonic, deobstruent, and diuretic. D. root is employed in medicine, in the form of infusion, decoction, and extract, chiefly in diseases of the liver and chronic affections of the digestive organs. It contains resin, inuline, sugar, etc. When roasted and ground, it is sometimes used also as a substitute for coffee. *D. coffee*, however, is usually a mixture of ordinary coffee and the powder or extract of D. root; and *D. chocolate* is composed of one part of common chocolate and four parts of the powder of D. root. The young leaves, when blanched, are a good salad, resembling lettuce or endive.

DANDER, v. *dăn'dēr* [F. *dandinier*, to walk awkwardly—from OF. *dandin*, clumsy, boobyish]: in *Scot.*, to walk without thinking whither; to saunter. DAN'DERING, imp. DANDERED, pp. *dăn'děrd*. DANDERS, n. plu. *dăn'děrz*, the refuse or cinders from a blacksmith's fire.

DANDLE, v. *dăn'dl* [It. *dondolare*, to dandle a child; *dondola*, a child's playing baby: Ger. *tandeln*, to toy, to trifle]: to move up and down, as an infant on the knee; to amuse; to fondle. DAN'DLING, imp. DANDLED, pp. *dăn'dld*. DAN'DLER, n. one who.

DANDOLO, *dăn'do-lo*, ENRICO, Doge of Venice: abt. 1110 (or 1115)—1205, June 1; of a famous Venetian family, which gave four doges to the republic. Eminent in learning, eloquence, and knowledge of affairs, he ascended from one step to another, until, 1173, he was sent as ambassador to Constantinople, and in 1192 was elected doge. In this latter capacity, he extended the bounds of the republic in Istria and Dalmatia, defeated the Pisans, and (1201) marched at the head of the Crusaders. He subdued Trieste and Zara, the coasts of Albania, the Ionian Islands, and Constantinople (1203, July 17). When the emperor Alexius, who had been raised to the throne by the exertions of D., was murdered by his own subjects, D. laid siege to Constantinople, and took it by storm, 1204, Apr. 13. He then established there the empire of the Latins, and caused Count Baldwin of Flanders to be chosen emperor. By the treaty of partition which he concluded with the other leaders of the crusade, Venice obtained possession of some of the islands of the Ionian Sea, and of the Archipelago, several harbors and tracts of land on the Hellespont, in Phrygia, the Morea, and Epirus, an entire quarter of Constantinople, and also, by purchase, the island of Candia. Soon after this, D. died in Constantinople, and was buried in the Church of St. Sophia. His monument was destroyed by the Turks at the taking of Constantinople 1453.

DANDRUFF, n. *dăn'drűf*, or DAN'DRUFF, n. *-drűf* [F. *teigne*, scurf: W. *ton*, skin; *drwg*, bad, evil]: a scurf on the head that comes off in small particles or scales.

DANDY, n. *dăn'dĩ* [It. *dondola*, a toy: Ger. *tandeln*, to trifle, to toy: comp. Gael. *deanta*, perfectly finished]: a man dainty in his attire and manners; one who dresses to excess, like a doll; a fop; a coxcomb. DAN'DYISH, a. *-ish*, like a dandy. DAN'DYISM, n. *-izm*, the manners and dress

DANE—DANFORTH.

on a dandy. **DANDY-NOTE**, a document used for the shipment of goods. For goods removed from the warehouses of the English customs, a form of dandy-note and pricking-note combined is used.

DANE, n. *dān*: native of Denmark. **DANE'GELT**, -*gëlt*, or **DANEGOLD**, a tax, first of 1s., afterward 2s., on every hide of land, formerly paid by the English for maintaining forces to oppose the Danes, or to procure peace from them by giving tribute. The tax was continued after the conquest, as one of the rights of the crown, till the time of Stephen. **DANISH**, a. *dā'nīsh*, of or belonging to the Danes: N. the language.

DANE, *dān*, **NATHAN**, LL.D.: 1752, Dec. 27—1835, Feb. 15; b. Ipswich, Mass.: lawyer. He graduated at Harvard College 1778, was admitted to the bar, and began practice at Beverly 1782. In the latter year he was elected a member of the Mass. house of representatives, and served till 1785, when he became a member of the continental congress, to which he was twice re elected. In 1787 he drafted the ordinance for the organization and govt. of the Northwest Territory, in which he inserted clauses prohibiting slavery and any laws impairing the obligation of contracts; 1790-99, was a member of the Mass. senate; 1795, commissioner to revise the state laws; 1811, commissioner to revise and publish all charters granted in the state; 1812, presidential elector; and 1814, member of the Hartford convention. He established the D. professorship of law in Harvard's law school 1829, and published *An Abridgment and Digest of American Law*, 9 vols. 8vo (1823-29).

DANE BROG, *dān'ē-brog*, **ORDER OF**: second of the Danish orders; instituted by King Waldemar 1219. The word *brog* in old Danish signifies 'cloth,' thus D. is equivalent to the cloth or banner of the Danes. The order is a sort of glorification of the old national flag of Denmark, which long floated, like the oriflamme of France, at the head of the army, and was fabled to have fallen from heaven at the battle of Volkmar, 1219. The order is meant to recompense services rendered to the state, whether civil or military, and irrespective of age or rank. The decoration of the order consists in a cross of gold *pattée*, enamelled with white, and suspended by a white ribbon, embroidered with red.

DANE'-LAGE, or **DANELAGH**, or **DANE-LAW**: district in England before the Norman conquest. After the overthrow of the Danes under Guthrun at Ethandune by King Alfred (878), a treaty was concluded between the two, in virtue of which the entire kingdom of Wessex, from Somerset to Kent, was evacuated by the Danes, who were, however, allowed to retain the greater part of the e. coast of England, including the whole of Northumbria. This district was called Danelagh or Dane-law, because the inhabitants were ruled by Danish and not by English law.

DANFORTH, *dān'fōrth*, **CHARLES**: 1797-1876, Mar. 22; c. Mass., inventor. In his youth he served as a sailor be-

DANG—DANIEL.

fore the war, and subsequently was active in the Mexican war. In 1829 he settled in Paterson, N. J., where he became partner in a machine shop which afterward extended its dimensions till it became one of the largest locomotive manufactories in the United States, under the name of the D. locomotive and machine works. At first his operations were confined to the manufacture of counter-twisters, spinning speeders, throstle-frames, spinning-frames, bobbins, and flyers, of his own invention. In 1852 he began manufacturing locomotives and other pieces of heavy machinery.

DANG, v. *dǎng* [Scot. *dīng*, to drive: Icel. *danga*, to beat]: in *OE.*, to beat down; to dash down; to strike with violence; to overcome: N. in *slang*, an imprecation, a softened form of *damn*. **DANG'ING**, imp. **DANGED**, pp. *dǎngd*.

DANGER, n. *dān'jēr* [F. *danger*—from OF. *danger*, authority, peril: mid. L. *damnum*, a fine imposed by legal authority: F. *damager*, to distrain or seize cattle found in trespass. mid. L. *domīgērīūm*, the power of exacting a *damnum* or fine for trespass—*lit.*, in the power of one's enemy or at his mercy]: exposure to any injury or evil; peril; hazard; risk; jeopardy. **DAN'GEROUS**, a. *-ūs*, unsafe; perilous; full of danger. **DAN'GEROUSLY**, ad. *-lī*. **DAN'GEROUSNESS**, n. the state of being in peril. **IN DANGER OF**, subjected to any one; in the power of one's enemy; liable in a penalty to, as '*in danger of the judgment.*' *Note.*—Originally *danger* meant, the authority, power, or rights of feudal lords in their various tolls, exactions, and confiscations; then the sense passed over from the authority of the lord to the sufferings of the merchants or travellers, and came finally to signify 'peril; hazard'—see Brachet.

DANGLE, v. *dǎng'gl* [Icel. *dengia*, to knock: Dan. *dingle*; Icel. and Sw. *dangla*, to dangle, to swing to and fro]: to hang loose and swinging; to hang on any one; to be a humble officious follower. **DAN'GLING**, imp. **DANGLED**, pp. *dǎng'gld*. **DAN'GLER**, n. *-gler*, one who dangles, particularly one who hangs about women. **DINGLE-DANGLE**, expresses the motion of a thing swaying to and fro.

DANIEL, *dān'yěl* or *dān'ī-ěl*: fourth of the greater Hebrew prophets; who lived about B.C. 600. He was a contemporary of the prophet Ezekiel, and was carried captive to Babylon in the fourth year of Jehoiakim. He was one of the youths selected to be brought up for future service at the court of the conqueror, and received instruction in all the learning of the Chaldeans. His skill in the interpretation of dreams procured for him the royal favor. He rose to be gov. of the province of Babylon under Nebuchadnezzar; and under Darius, the Mede, to be first president of the whole Medo-Persian empire, a dignity inferior only to that of Darius himself. The time and place of his death are unknown. He was alive, however, in the first year of the reign of Cyrus, but did not return to Judæa with his countrymen on their release from captivity. Euphanias and others affirm that he died at Babylon; but

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the common tradition is that he expired at Susa or Shusan in Persia, when upward of 90 years of age; and at the present day, a tomb bearing his name is the only standing building among the ruins of that ancient city. D. was the only one of the Hebrew prophets who had high worldly prosperity. Ezekiel mentions him as a model of wisdom and piety (Ezkl. xiv. 14; xxviii. 3).

DANIEL, BOOK OF: generally accepted as having been written by the prophet whose name it bears, and whose history it records. Porphyry, indeed, in the third c., and others in modern times, alleged that it was the work of some unknown author about B.C. 175; *after* the events in the life of Antiochus which it seems to predict. Against this assertion, which rests on no historical basis, are the following facts and considerations.

1. The Hebrew and Aramaic original was in the Jewish canon, as described by Josephus and as arranged (we have no reason to doubt) by Ezra, not later than B.C. 450. 2. Written partly in the one language and partly in the other its author must have been acquainted with both; narrating correctly Chaldean modes of life, he must have been familiar with them; describing intelligently the career of successive monarchs, he must have been in favor with them all. These qualifications meet in Daniel, as his history is given in the book; and in such a one as he only. 3. Alexander, in the rush of his conquest, granted exceptional privileges to the Jews. These cannot be accounted for in any other way so well as by the statement of Josephus that the high priest in the temple showed Alexander the book of Daniel in which the conquest of Persia by Greece was foretold. 4. The Greek version of the book contained in the Septuagint was, in all probability, made *before* the time of Antiochus. 5. From the first book of Maccabees we learn that Jews in the very days of Antiochus drew comfort and strength from the book of Daniel, as from other books of the Old Testament. 6. From the fact that Berosus in his list of Babylonian kings does not mention Belshazzar. Objectors argued that there was no such king; and consequently that Daniel's statements concerning him are false. But in 1854 Sir Henry Rawlinson found a Babylonian tablet which speaks of Bilsharuzar as associated on the throne with his father Nabonidus. This not only confirms the Scripture narrative, but puts also in a striking light the fact that when Belshazzar made Daniel the *third* ruler in the kingdom, he placed him next to himself. 7. The authority of Christ establishes the book as having been written by Daniel, and as containing prophecies about to be fulfilled. The book contains both prophecy and history; and some of the history is prophecy fulfilled.

The prophecies are, in outline, as follows: 1. Four kingdoms are represented by the parts of the image in Nebuchadnezzar's dream; to be followed and destroyed by a fifth, represented by a stone cut out of a mountain without hands. 2. Daniel's vision of four wild beasts coming up out of the sea; representing, probably, the same four kingdoms as rising out of tumults and wars. 3. The overthrow of the Persians by the Greeks, under the emblem of a ram attacked

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by a goat rushing from the west without touching the ground. 4. The 70 weeks; 70 times 7 days, signifying 490 years, from the command to rebuild Jerusalem to the coming and death of the Messiah. 5. A revelation (given to Daniel by the Son of God) beginning from the time then present, and extending to the final resurrection of the dead.

DANIEL, JOHN MONCURE: 1825, Oct. 24—1865, Mar. 30; b. Stafford co., Va.: editor. He was educated by his father, studied law, and became a librarian in Richmond 1845. In 1847 he was attached to the staff of the Richmond *Examiner*, a democratic newspaper just started, and with few interruptions remained its editor till death. During this period he fought several duels with parties offended with his extreme radicalism and invectives. He was U. S. minister to Italy 1853-60, and at the beginning of the civil war hastened home and engaged in field service on the staff of Gen. A. P. Hill till his right arm was shattered by a bullet. He then resumed the editorship of the *Examiner*, attacked the Confederate pres. and treas., was challenged to a duel by the latter and accepted, though unable to use his pistol arm, and was shot in the leg, 1864. He was an early advocate of secession in Va., and one of the first to predict the downfall of the Confederacy.

DANIEL, *dăn'yěl* or *dăn'ěl*, SAMUEL: English poet: 1562-1619, Oct. 14; b. near Taunton, Somersetshire; son of a music-master. He entered Magdalen Hall, Oxford, 1579, but quitted the university without taking a degree. For some time he acted as tutor to Anne Clifford, daughter of the Earl of Cumberland. In 1603, he was appointed master of the queen's revels, and inspector of the plays to be represented by the juvenile performers. Subsequently, he held other offices about the royal household. Toward the close of his life, he retired to his farm at Beckington, in his native county, where he died. D. is an elegant though not a great poet. His writings are pervaded by a moral thoughtfulness and purity of taste which are remarkable, but they lack that vital energy of movement and memorableness of expression which result from genuine inspiration. The 'well-languaged Daniel' is therefore not the most interesting of the Elizabethans, though his style is quite modern. His works include sonnets, epistles, masks and dramas; but his chief production is a poem in eight books, entitled *History of the Civil Wars between York and Lancaster*.

DANIELITE, n. *dăn'yel-īt*: a member of an order founded 1876 by a lifelong abstainer and vegetarian, T. W. Richardson, to bring about a non-animal diet. The name is derived from the circumstance that the prophet Daniel refused to eat the 'king's meat.' See Dan. i. 8-16.

DANIELL, JOHN FREDERICK, D.C.L.: 1790, Mar. 12—1845, Mar. 13; b. London: pupil of Prof. Brande, with whom he made several scientific tours; elected a fellow of the Royal Soc. 1814, and in 1816 started, in connection with Prof. Brande, the *Quarterly Journal of Science and Art*. From this period, D. gave almost his whole time to chemis-

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try and meteorology. In 1823, he published *Meteorological Essays*, still the standard work on meteorology; in 1824, the Horticultural Soc. awarded him their silver medal for *Essay on Artificial Climate*. In 1831, he was appointed prof. of chemistry in King's College, London; and in 1839, published *Introduction to Chemical Philosophy*. In 1843, he received the degree D.C.L. from the Univ. of Oxford. He had the great honor of being the only person who ever obtained all the three medals in the gift of the Royal Society. Besides his professorship in King's College, D. held also the post of lecturer at Addiscombe, and of examiner in chemistry to the Univ. of London. D.'s *Meteorological Essays* was the first attempt to account, in a truly philosophical manner, for the known phenomena of the atmosphere. He wrote a large number of interesting and valuable papers for the Royal Society. For an account of his new hygrometer, see **HYGROMETER**.

DANIELL, THOMAS: 1749–1840, Mar. 19; b. Kingston-on-Thames, England: painter. After serving an apprenticeship with a heraldic painter, he entered the schools of the Royal Acad. 1773, and contributed landscapes and flower-pieces to its exhibitions 1774–84. In the latter year he went to India, taking with him his nephew, William D., and the two worked together there 10 years. On their return to London they began the publication of their *Oriental Scenery*, completed in 6 vols., 1808. Thomas exhibited Indian subjects at the Royal Acad. 1795–1828; was elected an associate 1796, member 1797; became a fellow of the Royal Soc., of the Asiatic Soc., and of the Soc. of Antiquaries; and published *Views in Egypt*, *Hindoo Excavations in Ellora*, and *Picturesque Voyage to China by way of India*.

DANIELL'S CELL, n. [after the inventor J. F. Daniell]: a galvanic battery consisting of copper and zinc elements, the former placed in a solution of sulphate of copper, the latter in a solution of sulphate of zinc, which solutions are separated by a porous partition, and thus an action of remarkable constancy is maintained. DANIELL'S PYROMETER, pyrometer for measuring very high temperatures by the ~~expansion~~ **expansion** of a metallic rod.

DANISH LANGUAGE AND LITERATURE.

DANISH LANGUAGE AND LITERATURE: of Scandinavian origin, but so changed by various foreign admixtures, largely German, that its original character is scarcely recognizable. The Danish language, which, with slight modifications, is common to the three Scandinavian kingdoms, is a branch of the ancient Gothic, and has been retained in Iceland almost in its original form. The oldest memorials of the Danish are codes of laws, as the *Skaanske Lov*, and the old and new *Sjællandske Lov*, promulgated by Valdemar the Great 1162 and 71; but these, no less than the writings of Harpestreng, canon of Roeskilde (1244), already show marked deviations from the Icelandic, in consequence of the intermixture of the Anglo-Saxon, English, and Norman elements, due to the Danish occupation of England, and the immigration of monks and artisans into Denmark from Britain. The influence of the English dialect was again modified toward the close of the 12th c. by the influx of Germans into the country. Saxo Grammaticus, father of Danish history (d. 1204), wrote, like almost all his ecclesiastical brethren at that day, in Latin, as did also his contemporary, the knight Svend Aagesen. The Danish *Kæmpeviser* are the richest poetical remains of the folk-lore of the middle ages in Europe, and consist—1. Of narratives and songs of giants, demigods, and other supernatural creatures of the Scandinavian mythology; 2. Of romantic songs and tales connected with these mythical beings; and, 3. Of historical verses, referring to a later period. The names of the writers are unknown, and these compositions seem rather the expression of the entire people than the production of individual poets. Many have, from time immemorial, been associated with certain national melodies, which have secured them a permanent place in the hearts of the people, whose disposition leads them to dwell with fondness on the memory of by-gone times and events, and to seek in the glory of the past a compensation for the national humiliation and reverses of the present. The first printed collection of the *Kæmpeviser* is due to the royal historiographer, Vedel, and appeared at Ribe, 1592; another edition (Copenh. 1695) by Peter Syv found its way to almost every peasant's cottage; but the most complete of any is probably that by Nyerup and Rabek, 5. vols. (Copenh. 1810–14). After the Reformation, the national literature was comparatively neglected, for the composition of poor theological treatises and bald versions of the Psalms. Among the best writers in this department were Christian Pedersen (b. 1480), who, after having made a metrical version of the ancient national chronicles, devoted himself to the diffusion of the Lutheran faith, and made Danish translations of the New Testament; and the reformer Hans Taussen (b. 1494), who composed catechism, and translated the Pentateuch into Danish. The Danish language acquired stability and new life by the translation of the whole Bible, which, by order of King Christian III., was effected 1550 by Palladius and other professors of the university. The close of the 16th c. was memorable for many admirable writers on history which

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it produced in Denmark. Among those who edited and annotated the ancient Danish and Icelandic historical chronicles were Peder Claussen, A. S. Vedel, and Axil Hvitfeldt, whose respective works supply invaluable materials to the historical inquirer. These men were contemporaries of the great astronomer, Tycho Brahé, and, like him, experienced the caprices of court-favor. The 17th c. shows a large number of able writers, among whom were Longomontanus, pupil of Tycho Brahé; the family of Bartholin, numbering 17 in three generations, all known for the ability of their writings on medical, philosophical, and mathematical subjects in Latin, German, and Danish; the family of the Pontoppidas, 11 in number, all of whom have left memorials of proficiency in philology and history, and of acquaintance with the theology and natural history of the times; Arreboe, father of Danish poetry, who wrote on sacred subjects, and in his principal work, *Hexameron*, described in epic verse the events of the first six days of creation; Steno, the anatomist; and the lyrical poet, T. Kingo. A new era began with the genial and versatile Ludvig Holberg (b. 1684), who wrote in Latin, French, German, and Danish, and has left very numerous works on history, biography, and topography, but whose fame among his countrymen will ever rest on his inimitable comedies, farces, and satirical compositions. His genius and his writings gave an impetus to the cultivation of the Danish language, which not all the studied neglect of the court-party, and their persistence in the use of German, could check. The 18th c. produced many good historical critics—for instance, Torfæus, Langebek, Schöning, and Suhm, Magnæus, the Icelandic scholar, Thorlacius, and Thorkelin, learned in ancient northern lore, and Rosenvinge, the jurist. Among the epic and dramatic poets of that age, Ewald stands foremost, whose national lyrics evince true poetic genius. The close of the century was, however, unfavorable to mental development and freedom of thought; and the best writers, as in the case of Malte-Brun and the poet Heiberg, were either compelled to leave the country, or to abstain from giving expression to their opinions. Among the more recent writers are the poet Oehlenschläger,—whose national tragedies and lyrical legends of Scandinavian mythology have rekindled the long slumbering fire of Danish patriotism,—Baggesen, Winther, Hauch, F. P. Müller, Heiberg, Hertz, H. C. Andersen, Rosenhoff, Holst, and Overskou. Ingemann, who stands first as a writer of historical novels, also wrote good lyrics, and his subjects were generally taken from the national history. Short tales or novelettes seem, however, to be more congenial to the taste of the Danes, and most of their best writers of fiction have adopted this form—for instance, Blicher, Heiberg, Trane, Andersen, Winther, Carit Etlar, etc. The names of Oersted, Schouw, Forchhammer, Rask, Finn Magnussen, Worsaa, Grundtvig, Petersen, and Eschricht, sufficiently attest the stand that the physical sciences, philology, and archeology have attained in Denmark in the present day. Thorwaldsen,

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by the gift of his works to the nation, has created a taste and appreciation for sculpture and the arts generally among his countrymen, to which they were previously strangers, and has thus given a new direction to the mental culture of the Danes.

The Danish language is peculiarly soft, from the great number (ten) of its distinct vowel-sounds, the absence of gutturals, and the softening of all the consonants. It may be said to bear the same relation to the ancient tongue, the *Norræna* or *Dönsk Tunga*, that Italian does to Latin, force and precise inflections having been sacrificed for melody and simplicity.

DANITES, *dân'its* or *dā'nīts*: among the Mormons in western America, a secret order, either controlled or used by the highest officials of the Mormon Church; openly accused, and with evidence which has not been successfully met, of numerous murders in behalf of their peculiar political system.

DANK, a. *dănk* [synonymous with *damp*: prov. Sw. *dank*, a moist place in a field: Dut. *donker*; AS. *duncor*; Ger. *dunkel*, dark, obscure]: close and damp; very humid: N. humidity; moisture. DANK'ISH, a. *-ish*, somewhat damp. DANK'ISHNESS, n.

DANKALI, *dân-kâ-lē'*: independent state of Abyssinia, extending along the s. w. border of the Red Sea, between lat. 13°—50° 30' n.—a range of mountains almost parallel to the coast, and about 50 m. from it, forming its inland boundary. D. is a sterile territory, almost destitute of water. The heat is excessive, often reaching 110° F. The inhabitants are of various Arab tribes, indolent, treacherous, and cruel. They number about 70,000.

DAN'NEBROG: see DANE BROG.

DANNECKER, *dân'něk-ēr*: JOHANN HEINRICH VON: 1758, Oct. 15—1841, Dec. 8; b. Waldenbuch, dist. of Stuttgart: German sculptor. His parents were in the humblest circumstances; but through the favor of the Duke of Würtemberg, he received a good education at the military acad. at Ludwigsburg. His artistic talents were rapidly developed. In 1780, he obtained the prize for the best model of *Milo of Croton destroyed by the Lion*; and in 1783 went to Paris, where he studied two years under Pajou; after which, he went to Rome, where he met Goethe, Herder, and Canova, to the last of whom he was indebted for instruction in his profession. At Rome, D. remained till 1790, and executed in marble his statues of *Ceres* and *Bacchus*. On his return to Germany, the Duke of Würtemberg appointed him prof. of sculpture in the acad. at Stuttgart, in which city he resided till his death. D. was undoubtedly one of the best of modern sculptors. His forte lay in expressing individual characteristics, in which respect he has not been surpassed. This gives great value to his busts of distinguished persons, such as Schiller, Lavater, Gluck, and the kings Frederick and William of Würtemberg. His perceptions of the beautiful and the delicate, especially in the female form, also are considered by his

countrymen to be more exquisite and true than those even of Canova. His earlier works are chiefly pagan in their subjects, while his later ones are Christian, and are pervaded by a pensive idealism. Of the former, besides those already mentioned, the principal are *Sappho*, *Love*, *Psyche*, and *Ariadne as the Bride of Bacchus riding on a Leopard* (at Frankfurt); of the latter, *Christ*, *John the Baptist*, and *Faith*.

DANTE, (properly, DURANTE) ALIGHIERI, dā'n'te, It. dā'n'tā ā-le-ge-ā'rē: one of the greatest poets of all time, incomparably the greatest among Italians: 1265-1321, Sep. 14, b. Forenee. The circumstances and fortunes of his life are mostly involved in uncertainty. His family was, by his own account, one of the most illustrious in the city. His father dying while D. was young, his education devolved upon his mother, Bella. In this duty, in which she displayed great fidelity and judgment, she seems to have been counselled and aided by the statesman, scholar, and poet, Brunetto Latini. The elements of knowledge D. probably acquired in Florence; in riper years, he studied philosophy at Bologna, and Padua. After his banishment, he pursued theology for a time at Paris, and, if Boecaccio were to be believed, even visited England. His studies did not prevent him from discharging the public duties of a citizen. He fought in the successful battle with the Aretines at Campaldino 1289, and was present at the taking of the fortress of Caprona 1290. What civil offices he first held, is not known, but it is certain that he was sent on several embassies, and at last, 1300, rose to the highest dignity of the city, being chosen one of the Priori for two months, an office which was the source of his subsequent unhappy fortunes. Florence, on the whole, belonged to the party of the Guelphs (q. v.), but was divided into the two factions of the Neri and Bianchi (the *blacks* and *whites*). The Neri were the unconditional adherents of the pope, and this of course gave to the other faction a more Ghibelline leaning: See GUELPHS and GHI-BELLINES. A tumult in the city, occasioned by the heads of the ultra-Guelphic or *black* party, caused their temporary expulsion from Florence. They hurried to Rome, to lay their complaints before the Pope. D., who belonged to the Bianchi, was sent by his party to Rome, to counteract their machinations; but Boniface VIII., in concert with the Neri, induced Charles of Valois, brother of Philip IV. of France, to come to Florence and restore peace under the title of peacemaker. This explains the deadly enmity of D. to Boniface. The peace established by Charles of Valois consisted in recalling the banished leaders of the Neri, in giving up the houses and property of the Bianchi to be plundered, and banishing many of them, and among others Dante. D. never entered his native city again, and his whole subsequent life was unsettled, spent in various places, and under various protectors, at Arezzo, Verona, Padua, etc. In 1304, the Bianchi made a final attempt to return to Florence by force of arms, which failed; and probably on this occasion it was that D. went to Paris. The march of Henry VII. to Rome 1310 recalled D. to Italy, and he endeavored,

by addressing ardent letters to the Italian princes, to promote the cause of the empire, which had now become his own. It was probably with this view and at this time, that his work *De Monarchia* was written. The unsuccessful siege of Florence, and the death of the emperor, which followed in 1313, annihilated the last hopes of D., and he spent the closing years of his life at Ravenna, under the protection of Guido Novello da Polenta. He went on a mission for this prince to Venice, returned sick and died.

As it is often with distinguished men, an incident in D.'s early youth had made an indelible impression on the soul of the poet, and, as he himself expresses it, awakened in him a 'new life.' At a family festivity, he had seen Beatrice Portinari, then eight years old, daughter of a rich citizen, and the love that sprang up in the heart of the nine years' old boy became the fountain of the poetical inspiration of his life. How pure, chaste, and tender his love was, is testified by the *Vita Nuova*, his first work, which appeared about 1300. It is a collection of poems or canzoni, bearing upon this youthful love, and with each piece is given a history of its origin and a minute analysis. The best edition of this collection is that prepared by the Marquis Trivulzio (Mil. 1827). Beatrice married a nobleman, Simone Bardi, and died young about 1290. D. himself afterward married a lady named Gemma, of the powerful house of Donati.

His immortal work, the *Divina Commedia*, depicts a vision, in which the poet is conducted first by Virgil, representative of human reason, through hell and purgatory; and then by Beatrice, representative of celestial revelation; and finally by St. Bernard, through the several heavens, where he beholds the triune God. The name *Commedia* was given to the work by the poet himself—because, beginning with the horrible, it ends cheerfully; and because, in respect of style, it is lowly, being written in the vulgar tongue. The epithet *Divina* was added by the admiration of after-times. Hell is represented in the poem as a funnel-shaped hollow, formed of gradually contracting circles, the lowest and narrowest of which is at the earth's centre. Purgatory is a mountain rising solitary from the ocean on the side of the earth opposite to us; it is divided into terraces, and its top is the terrestrial paradise, the first abode of man. From this, the poet ascends through the seven planetary heavens, the heaven of the fixed stars, and the *primum mobile*, to the empyrean, or fixed seat of God. In all parts of the regions thus traversed, there arise conversations with noted personages, for the most part recently deceased. At one time, the reader is filled with the deepest sorrow; at another, with horror and aversion; or the deepest questions of the then philosophy and theology are discussed and solved; and the social and moral condition of Italy, with the corruptions of church and state, are depicted with a noble indignation.

Fifty-two years after the poet's death, the republic of Florence, at the instigation of Boccaccio, set apart an annual sum for public lectures to explain the *Divine Comedy* to the people in one of the churches, and Boccaccio him-

self was appointed first lecturer. The example was imitated in several other places of Italy. The works of these men are among the earliest extant commentaries on D. The number of editions of the work amounts by this time to about 300. Only a few, in addition to the commentaries above mentioned, deserve notice. They are: that printed at Fuligno in 1472—earliest of all; the Nidobeatine edition at Milan (1478); the first Aldine edition (1502); the first Cruscan edition (1695); that of Volpi (1727); of Venturi (1732); of Lombardi (1791), and with additions and illustrations in 1815–21, and 22; of Dionisi (1795); of Ugo Foscolo (Lond. 1842–3). A reprint of the Fuligno edition above mentioned, together with those printed at Jesi (1472), at Mantua (1472), and at Naples by Francisco del Tuppo (about 1478), appeared at London 1858, under the superintendence of Sir Antonio Panizzi, and at the expense of Lord Vernon.

The *Divina Commedia* has been translated into almost all European languages. Two translations of the whole into Latin have been printed, one by Carlo d'Aquino (1728), and lately by Piazza (1848). In French, there are a number of translations both in prose and in verse. The earliest, by Grangier, 1596, is still nearest the original in form, but none is good. The German translations are numerous, and such as no other modern language can equal in faithfulness. Kannegiesser has translated the whole in the measure and rhyme of the original (4th ed. Leip. 1843); King John of Saxony's translation is said by some to be the best. The chief English translations are Boyd's (1785) and Cary's (1814), in blank verse (see *Chandos Classics* London, Warne & Co.); Wright's (1833) in triple rhymes; Cayley's in the original ternary rhyme (the *Inferno*, 1851, the *Purgatory*, 1853, the *Paradiso* 1854, with notes 1855); Dr. John Carlyle's, the *Inferno* in prose, with commentary (1849); Fred. Pollock's in blank verse (1854); Henry W. Longfellow's (1867) in blank verse, with D.'s ternary arrangement of lines. D. wrote other works.

DANTON, *dăn'ton*, Fr. *dõng-tõng'*, GEORGES-JACQUES: 1759, Oct. 28—1794, Apr. 5; b. at Arcis-sur-Aube, France. At the outbreak of the French Revolution, he was practicing as an advocate in Paris, but was in low repute for dissolute habits. The fierce, half-savage nature of the man, however, immediately found a fitting sphere for its action in the chaos into which France then fell. Mirabeau quickly detected his genius, and hastened to attach D. to himself. President of the district of the Cordeliers, D. ruled it at his will. With Marat and Camille Desmoulins, he instituted the Cordeliers' Club (see CORDELIERS), an exaggerated copy of that of the Jacobins. It soon became the rallying-point of all the hotter revolutionists. There the tall brawny man, with harsh and daring countenance, terrible black brows, and a voice of enormous power, thundered against the aristocrats, till the passions of the populace rose into ungovernable fury. It was not, however, till after the flight of Louis that the political rôle of D. commenced. 1791, July 17, he and others assembled

the people of Paris in the Champ-de-Mars, and goaded them on by furious declamation to sign a petition for the deposition of the king. Some time afterward he became *procureur-substitut* for the city of Paris. The court, which found that it could not frighten D., now attempted to bribe him. It is not certain that he proved venal, but the evidence undoubtedly leaves a strong suspicion of his venality. Be that as it may, he soon broke off his secret intercourse with the royalist agents, and became more the implacable enemy of the monarchy than before. It was D. who excited to action the wild sanguinary rabble that, 1792, Aug. 10, stormed the Tuileries, and butchered the faithful Swiss. The reward of his fatal eloquence was the office of minister of justice, and here the gigantic personality of the man seemed to overshadow all the surrounding figures. He stood forth as the incarnate spirit of the Revolution, manifesting alike its heroic audacity in the presence of danger from without, and its maniacal terror in the presence of danger from within. The advance of the Prussians seemed for a moment to inspire France with a panic. On Sep. 2, D. mounted the tribune, and addressed the legislative assembly in a speech of tremendous power, probably the most effective during the whole Revolution. It closed with these words regarding the enemies of France: *Pour les vaincre, pour les atterrer, que faut-il? De l'audace, encore de l'audace et toujours de l'audace.* France quivered to its core with enthusiasm. 'In a few weeks, 14 republican armies stood upon the field of battle, and repelled with unexampled bravery the aggressions of the allied forces.' But unhappily that 'audacity,' by which alone D. thought it possible for France to save herself, required for its perfection the immolation of the imprisoned royalists. On the very evening when D. spoke, the frightful September Massacres began. D. publicly thanked the assassins, 'not as the minister of justice, but as the minister of the Revolution.' Elected by the city of Paris one of its deputies to the national convention, he resigned his judicial function, and zealously hurried on the trial of the king. As a proof of his ferocious decision of character when pressed by difficulties, it is recorded that one of his friends having pointed out that the convention could not *legally* try the king, 'You are right,' instantly replied Danton. 'So, we will not try him; *we will kill him!*' In the mean time, D. was sent on a mission to the army of the north, commanded by Dumourier, with whom he was soon on close terms of intimacy—too much so, indeed, for the suspicious soul of his old friend Marat. The defection of Dumourier was the signal for Marat to give vent to his suspicions. It therefore became necessary for D. to throw himself again into the van of the revolutionary movement. 1793, Mar. 10, he established the 'extraordinary criminal tribunal,' which was at liberty to make what arrests it pleased, and from whose deadly decisions there was no appeal. He also became pres. of the 'Committee of Public Safety.' D. now set himself to crush the Girondists, or moderate party, alleging, with

singular candor, that 'in a revolution the authority ought to belong to the greatest scoundrels.' In this he was supported by Robespierre, now gliding into power swiftly and silently like a serpent. After he had effected his purpose, however, a species of remorse seems to have seized him. He objected to the institution of the guillotine. This trait of moderation lost him the favor of the Jacobins or Mountain party, whose murderous instincts led them to select Robespierre as a chief, on the permanence of whose cruelty more reliance might be placed. Several other indications of returning humanity lessened his influence still more, and at the close of 1793, D. felt that a crisis was approaching. A fruitless attempt was made to reconcile Robespierre and him. They had an interview, but parted on worse terms than ever. It was now a struggle for life between them; but D., sick of the Revolution, and conscious that it was rapidly becoming a *sham* (a thing which D., with all his faults, could not abide), gave himself up to a sort of reckless apathy, which enabled the sleepless Robespierre to ruin him. His friends endeavored to rouse him. 'I would rather be guillotined than guillotine,' he answered. Blinded by the consciousness of his own inherent power, he also declared that his enemies 'would not dare' to lift their finger against him. But men of the stamp of Robespierre—though essentially cowards, and incapable of facing danger with honest straightforwardness—have a certain furtive audacity that emboldens them to attack a greater than themselves, if circumstances are favorable. So Robespierre sprang at D., and so the great anarchy perished. On the night of 1794, Mar. 30, he was arrested, and brought before that Revolutionary Tribunal which he himself had established, summarily condemned, and, with Camille Desmoulins and others, was guillotined six days later. He predicted the fate of Robespierre, calling him 'an infamous poltroon,' and immediately added, 'I was the only person who could have saved him.' D. was an atheist—not a calm, thoughtful, dispassionate disbeliever in the existence of God, but one who, by his own vices, and the general godlessness of the times in which he lived, had been robbed of the spirit and power of faith in the Unseen. When formally interrogated regarding his name and dwelling, he replied: 'My dwelling-place will soon be annihilation, and my name will live in the Pantheon of history.'

DANTZIG: see DANZIG.

DANUBE, *dän'ūb* (Ger. *Donau*): second of European rivers, inferior only to the Volga. It has its origin in the Brege and Brigach, two mountain-streams rising in the e. part of the Black Forest, in Baden, 2,850 ft. above sea-level; in lat. 48° 6' n., and in long. 8° 9' e. The total length of the D. is about 1,750 m.; the area which it drains is estimated at 250,000 sq. m., comprising countries widely varying in climate and productions. The average fall of the D. is 18 inches per mile. At Ulm, it attains a breadth of 108 ft., and before its junction with the Sereth the mean

DANUBE

breadth is 6,000 ft., and the depth, Ulm, 6 ft., and at Passau 16, is here on an average 20 ft. The D. is joined in its course by 60 navigable rivers, and falls into the Black Sea, pouring into it a volume of water nearly equal to that of all the other rivers that empty themselves there. From its source, it flows n.-easterly through Würtemberg and Bavaria. Passing Ulm, at which point the river becomes navigable for vessels of 100 tons, it receives from the s. the Lech and the Iser, with some unimportant streams from the n.; flows rapidly past Ingolstadt, and onward to Regensburg (Ratisbon); then suddenly altering its course, it proceeds s.-easterly, passing Straubing and Passau, where it enters the Austrian dominions. With little variation of course, the D. flows e. from Passau to Presburg, receiving from the s. the Inn and the Ens, and from the n. the March or Morava, through a tract of country rich in minerals, well peopled, and highly cultivated. Near Linz, and also in the picturesque neighborhood of Vienna, the waters of the D. frequently divide, and inclose large tracts of soil, forming islands, among which are the Great and Little Schütt, called also the Golden Gardens. Hurrying past Presburg, the D. alters its course to s e., and such is its velocity here, that barges can navigate it only downward. Passing Pesth, and flowing directly s., it enters upon the Hungarian plain, a vast sandy and alluvial flat, in which it is continually forcing new channels and silting up old ones, sometimes sweeping away towns, or capriciously removing its waters to a distance of several miles from such as were formerly built upon its banks. Here it receives from the n. the Waag and the Gran, while the Drave from the w. adds considerably to its volume. After this accession, the river turns toward the e., and joined by the waters of the Theiss and Temes from the n. sweeps past Belgrade, forming the boundary between Servia and Hungary. Still flowing e., the D., leaving Orsova, passes the famous Iron Gate, a broad plateau of rock 1,400 yards wide, over which the water formerly rushed with an overpowering noise. This rapid, which was followed by a series of whirlpools, eddies, and shallow falls, formed an effectual bar to the upward progress of vessels, no craft drawing more than $2\frac{1}{2}$ ft. of water being able to pass it. In 1847-49, the obstruction formed by the Iron Gate was to some extent removed by blasting, so that now vessels of eight, and even nine ft. draught, can pass at certain seasons of the year, though the majority of vessels engaged on this part of the river draw no more than four ft. of water. A few miles further on, it enters a plain, and proceeding uninterruptedly, forms the boundary between Walachia and Bulgaria. From the Carpathians it receives the Schyl and the Aluta, and from Mount Balkan the Morava. Increased by these rivers and by numberless streams, it flows through a district fertile indeed, but badly cultivated and thinly peopled, occasionally broadening like a sea, as at Hirsova, and encircling many islands. After being joined by the Sereth and the Pruth from the n., and after dividing into several branches forming del-

DANUBIAN—DANVILLF

toid islands, it flows e. into the Black Sea. The principal mouth is the Sulina, by which the greater number of ships enter. The D., which is the chief natural highway for European commerce, is, throughout the greater part of its course, surrounded by picturesque and impressive scenery—at one time flanked with lofty mountains, again having on each side, dense and far-extending forests. At the peace of Paris, 1856, the navigation of the Danube was declared free to all nations, and its management was intrusted to two commissions, one representing the European powers, another named by the states on the banks of the river. At the Berlin Congress, 1878, it was stipulated that no ships of war should navigate the D. below the Iron Gates. The Danube Steam Navigation Company, which has done much to increase the commerce, has upward of 150 steamers and 600 tow-boats.

DANUBIAN, a. *dăn-ŭ'bĭ-ăn*: pertaining to the river *Danube*.

DANU'BIAN PRINCIPALITIES: name applied to Moldavia and Wallachia: see **ROUMANIA**.

DANVERS, *dăn'vērz*: town of Essex co., Mass., 19 m. n. by w. of Boston, on the Essex and the Salem and Lowell and a branch of the Boston and Maine railroads. It was the birthplace of George Peabody who gave \$30,000 to found an institute and library there, 1852, to which he subsequently added \$170,000, with a further gift of \$50,000 for a similar institution in north D.; and is the resting place of his mortal remains, which the British nation had desired should repose in Westminster Abbey. D. was a portion of Salem till 1756, and embraces the famous Salem village parish where the disastrous witchcraft excitement broke out. The state has here erected a noble insane asylum at a cost of over \$2,000,000. The town has extensive manufactures of shoes, bricks, and carpets, an iron foundry, a rolling mill, several tanneries, 10 churches, 1 national and 1 savings bank, a high school, and 2 weekly newspapers. South D., incorporated as a separate town 1855, has been known as Peabody since 1870. Pop. (1890) 7,454; (1900) 8,542.

DANVILLE, *dăn'vĭl*: city, cap. of Vermilion co., Ill., on the Vermilion river, 4 m. w. of the Ind. state line, 33 m. e. of Champaign, 73 m. e.n.e. of Decatur, 125 m. s. of Chicago; on the Chicago D. and Vincennes railroad, the Paris and D. railroad, at the crossing of the Wabash and the Indianapolis Bloomington and Western railroads, and at the terminus of the Evansville Terre Haute and Chicago railroad. Its chief industry is coal mining, which is carried on extensively on the bluffs of the river. It also has large railroad car and machine shops, 2 iron foundries, 2 planing mills, 5 carriage and wagon factories, an organ factory, and a furniture factory. Its buildings include a co. court house, 3 public halls, 13 churches, a high school, and an opera house. There are one national and two savings banks, one daily and 3 weekly newspapers. Pop. (1880) 7,735; (1890) 11,491; (1900) 16,354

DANVILLE—DANZIG.

DANVILLE: town, cap. of Boyle co., Ky.; 36 m. s.s.w. of Lexington, 96 m. s.e. of Louisville, 114 m. s. of Cincinnati; on the Cincinnati Southern and a branch of the Louisville and Great Southern railroads. It contains a number of noted educational institutions such as the D. Theol. Seminary of the Presb. Church, founded 1819, the Southern Collegiate Institute, the Caldwell Female Institute, and Centre College: is the seat of a state asylum for the deaf and dumb; has 13 churches, a co. court house, 1 national and 1 savings bank, and 1 weekly newspaper. Pop. (1870) 2,542; (1880) 3,704; (1900) 4,285.

DANVILLE: borough, cap. Montour co., Penn.; on the n. branch of the Susquehanna river, and the Lackawanna and Bloomsburg, Philadelphia and Reading, and D. Hazleton and Wilkesbarre railroads; 30 m. s.e. of Williamsport, 50 m. w.s.w. of Wilkesbarre, 67 m. n. by e. of Harrisburg. D. is in a district abounding with iron-ore, limestone, and anthracite coal, contains the first establishment erected in the United States for the manufacture of railroad iron and still among the most extensive in the country; 7 blast furnaces, 5 iron foundries, and 4 rolling mills; 16 churches, 2 national banks, the D. Institute, a state asylum for the insane, 1 daily and 4 weekly newspapers. D. was settled 1768. Pop. (1880) 7,839; (1900) 8,042.

DANVILLE: town of Pittsylvania co., Va.; on the falls of Dan river and in an unusually rich tobacco region; 65 m. s. of Lynchburg, 141 m. w.s.w. of Richmond, 236 m. s.w. of Washington; on the Richmond and D. railroad and at the terminus of the Va. Midland railroad. Its industrial establishments comprise an iron foundry, 9 tobacco warehouses, 75 tobacco factories, and 75 assorting factories; the chief trade is in yellow leaf tobacco. Leading educational institutions are Randolph-Macon Inst., D. Military Inst., D. Acad., D. Female College, and Roanoke Female College. It has 1 national and 2 other banks, 2 weekly newspapers. Pop. (1900) 16,520.

DANZIG, *dąn't'siĕh* (Polish *Gdańsk*): important seaport of Prussia, and fortress of the first rank, in the province of Prussia; on the left bank of the w. branch of the Vistula, about $3\frac{1}{2}$ m. from its mouth in the Baltic. D. is an ancient place, in existence at least as early as the 10th c., and its possession was long an object of ambition to the Danes, Swedes, Pomeranians, and Teutonic knights, the last of whom obtained, and held it for a considerable period. In 1454, it became a free city under Poland, and remained so until 1793, when it fell under the dominion of Prussia, in whose hands, except 1807–14, when it existed as a separate dukedom under Napoleonic rule, it has since continued. D. is surrounded by ramparts and wet ditches, and is otherwise strongly fortified, and the garrison possesses the means of laying the surrounding country under water on three sides. The city is traversed by the Motlau and Radaune, tributaries of the Vistula, the former of which is deep enough to admit vessels of eight or nine ft. draught up to the town. The principal port, however, is at Neufahrwasser. at the

DAOUDNUGUR—DAPHNE.

mouth of the Vistula, which river cannot be entered by large vessels on account of the sand-bars across it. Many of the streets of D. are narrow and crooked, but the principal street, intersecting it from e. to w., abounds in fine specimens of antique architecture, and has altogether a most picturesque appearance. Among most noteworthy buildings are the cathedral, a fine structure, commenced 1343, but not finished until 1503, and possessed of a noble and widely celebrated picture of the *Last Judgment* (the painter of which is unknown), the Church of St. Catharine, Trinity Church, the fine old Town-hall (which has lately been restored at a cost of 60,000 thalers), the Exchange, etc. D. was a prominent member of the Hanseatic League, and is still one of the chief commercial cities of n. Europe. To provide for its immense trade in grain, it has enormous granaries, capable of containing 500,000 quarters of corn, and built on an island forming one of the parts of the town where, in order to prevent fire, no person is permitted to live, nor lights allowed. In 1880, 105,034 tons (of 1,000 kilos.) of wheat and other grain were exported, of which 39,939 tons went to Great Britain. The value of timber exported 1879 was \$2,868,770; (1880) \$4,044,000; the largest quantity going to Great Britain. Beside grain and timber, there are minor articles of export, as black beer, amber, spirits, etc. The annual value of the exports is about \$15,000,000; of the imports about twice as much. In 1880, 1,894 vessels entered, and 1,876 cleared the harbor. Pop., the majority Prot. (1880), 108,551; (900) 140,539.

DAOUDNUGUR, *dâ-ôd-nŭg'gŭr*: town in the province of Behar, India, on the right bank of the Sone; about 90 m. e. of Benares; lat. 25° 3' n., and long. 84° 27' e. It is a wretched-looking place, most of its thoroughfares being mere passages. It has considerable trade, manufacturing coarse fabrics both of wool and of cotton. Pop. 11,000.

DAOURIA, *dâ-ô'rê-â*: country of Asia, partly in the Russian govt. of Irkutsk, and partly belonging to the Chinese territory of Mantchuria. Its limits are not exactly defined. The Daourian Mountains, offsets of the Yablonoi mountains, traverse it from n.e. to s.w., and separate it from the region of Lake Baikal. The mountains are fertile in minerals.

DAP, v. *dăp* [from DIP]: in *angling*, to drop the bait gently into the water, or to raise it. DAP'PING, imp. DAPPED, pp. *dăpt*.

DAPEDIUM, n. *dăp-ěd'ŭ-ŭm*, or DAPED'IUS, *-ŭs* [Gr. *dapidion*, dim. from *dapedon*, the floor of a chamber]: genus of fossil fishes, family *Dapedidæ*. They are peculiar to the Lias. The arrangement of the scales resembles a tessellated pavement.

DAPHNE, *dăf'nē* [from the fabled nymph *Daphnē*]: magnificent grove and sanctuary in ancient times, near Antioch (q.v.). The grove was finally laid out in walks of cypress and bay trees, and as the chief resort of all the dissolute persons in the city, became the scene of the greatest debauchery. In the centre, surrounded by the luxuries

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of nature and art, glorious gardens, fountains, baths, colonnades, stood the temple of Apollo and Diana, invested with the privileges of an asylum, and for centuries a place of heathen pilgrimage. The progress of Christianity gradually revived in the Antiochenes the purer instincts of virtue and decorum, and the grove was finally abandoned. Julian the Apostate, in his vain endeavor to resuscitate the corpse of paganism, visited D., and made the altars of the temple smoke once more with incense; but on his departure they were again neglected, until one night the altars and the statues were discovered to be in flames. They were consumed to ashes; and so perished for ever the gods of Daphne.

D. owed its origin to Seleucus Nicator. He planted the grove, built the temple, and gave the place a mythological history in connection with the river Peneus and the nymph Daphne, fabled to have been turned here into a laurel or bay tree, whence the grove received its name. Modern travellers are not agreed as to its site. Pococke and Richter decide in favor of *Beit-el-Maa*, about 5 m. from Antioch; while Forbiger and Kinneir consider Babylas the true position.

DAPHNĒ, n. *dăf'nē* [Gr. and L., the daughter of the river-god Peneus, changed into a laurel-tree]: genus of plants of the nat. ord. *Thymeleaceæ*, having a 4-cleft funnel-shaped



Daphne Mezereum.

perianth, the throat of which is destitute of scales, eight stamens, and a one-seeded succulent fruit. All the species

DAPHNEPHORIA—DAPHNIS.

are shrubs or small trees, some having deciduous, and some evergreen leaves, all of them possessing in all their parts more or less acridity, which in some is so great that they are even caustic; and the berries are poisonous to all animals except birds, while the flowers of some are deliciously fragrant. To this genus belongs the *DAPHNE MEZEREON*, well known both for the fragrance of its flowers and for its medicinal uses. The *GAROU* bush (*D. gnidium*), native of the south of Europe, less hardy than the *mezereon*, has the same medicinal properties and uses, which is in some measure the case with many other species. The *SPURGE LAUREL* (*D. laureola*) is an evergreen shrub, 3-4 ft. high, with obovate-lanceolate leaves, which grow in tufts at the end of the branches, and give it a remarkable appearance. It grows well under the shade of trees.—*D. Japonica*, a species recently introduced from Japan, has exquisitely lemon-scented leaves. From the bark of some species of *D.*, and of the most nearly allied genera, paper is made in different parts of the East, particularly *Nepaul paper* from that of *D. cannabina*. Slips of the inner bark are boiled in a lye of wood-ashes for half an hour till quite soft, are then reduced to a homogeneous pulp by beating with a wooden mallet in a mortar, churned with water into a thin paste, and poured through a coarse sieve upon a cloth stretched on a frame. The paper is subsequently polished by friction, with a shell or a piece of hard-wood, and is remarkable for toughness, smoothness, and durability. Most of the paper used in Tibet is made from the bark of different species of *D.* and allied genera, particularly of *Edgeworthia Gardneri*, a beautiful shrub, with globes of waxy, cowslip-colored, deliciously fragrant flowers, growing on the Himalaya, at an elevation of 6,000-7,000 ft. The bark of *Dais Madagascariensis* also is made into paper in Madagascar, and that of *Gnidia daphnoides* into ropes.

DAPHNEPHORIA, *dăf-nē-fō'ri-ă*: festival in honor of Apollo, celebrated at Thebes once in nine years.

DAPH'NIA: see **WATER-FLEA**.

DAPH'NIN, or **DAPHNINE**: bitter, astringent, crystalline substance present in different species of *Daphne*, and obtained from the bark. It is analogous to asparagine: see **ASPARAGUS**.

DAPHNIS, *dăf'nīs*: in Greek mythology, a son of Mercury and of a nymph, who became a shepherd on Mount Ætna, fell in love with Chloë, a naiad who through a suspicion of his lack of fidelity caused blindness to come upon him. In his distress he prayed to his father for relief, and Mercury took him to heaven. He was esteemed a youth of great beauty, and the first to compose pastoral poetry. His story is outlined in the first idyl of Theocritus, Allan Ramsay's *Gentle Shepherd*, and St. Pierre's *Paul and Virginia*.

DAPIFER—DARBOY.

DAPIFER, n. *dăp'î-fër* [L. *dapes*, a feast; *fero*, I bear or carry]: one who carried the meat to the table; a steward afterward the chief steward or bailiff of any honor or manor.

DAPPER, a. *dăp'për* [Dut. *dapper*, active, smart: Low Ger. *dobbers*, sound, good: Ger. *tapfer*, brave]: little and active; nimble; neat; clean-made.

DAPPLE, a. *dăp'l*, or **DAPPLED**, a. *dăp'ld* [from *dab*, a lump of something soft, a blotch or spot: Icel. *depill*, a spot on ground of a different color]: spotted of various colors; marked with spots; mottled: V. to mark or variegate with spots. **DAP'PLING**, imp. *-ling*. **DAP'PLED**, pp. *-ld*: **ADJ.** mottled.

DARABGHERD, *dâ-râb-gèrd'*, or **DARAB**, *dâ'râb*: town of Persia, province of Farsistan; lat. 29° n., long. 54° 30' e.; on a small river in an extensive plain, and surrounded by lemon and orange groves. Formerly it was a place of great extent and importance, but most of it is now in ruins. Pop. considerably less than 20,000.

DARAGUNJ, *dâ-râ-gũnj'*: town of British India on the left bank of the Ganges, opposite Allahabad. Pop. 9,000.

D'ARBLAY, *dar'blā*, *dâr-blā'*, **MADAME FRANCES**: novelist: 1752, June 13—1840, Jan. 6; b. Lynn-Regis, England; daughter of Dr. Charles Burney, an eminent musician. She received a very limited education, but gained much general and literary information from the distinguished men and women of letters who frequented her father's house in London to listen to his concerts. Her first novel *Evelina* was published anonymously 1778, and had great success. It received the praise of Burke, Gibbon, Johnson, and Sheridan, and when the name of its author was disclosed she found herself at once famous. She brought out *Cecilia* 1782, was appointed second keeper of the robes to Queen Charlotte 1786, married Count D'A., an exiled French officer, 1793, and resided in France 1802–16. She wrote *Camilla* and other works of fiction, and left interesting material for a *Diary and Letters*, 7 vols. (1842–46). She died in Bath, England.

DARBOY, *dar-brôá'*, **GEORGES**, Archbishop of Paris: 1813, Jan. 6—1871, May 24; b. Le Fayl-Billot. He was ordained to the Rom. Cath. priesthood 1836; was appointed teacher of philosophy 1839, and theology 1841, in the seminary of Langres; consecrated bp. of Nancy 1859, and elevated to the archiepiscopate of Paris 1863. He attended the Vatican council 1869–70, and first opposed, then acquiesced in the dogma of papal infallibility. During the reign of the communists in Paris, 1871, he was arrested by them as a hostage, and when the govt. troops captured the city, he with five other hostages were shot in the prison of La Roquette, May 24, before the soldiers could rescue them. The communists were deaf to all appeals for mercy toward the hostages, to secure which U. S. minister Washburne exerted all his great influence; and the bullet did its fatal work while the archbishop was in the act of blessing his murderers. He was author of *Holy Women* (1850); *Women*

DARBUNG—DARDEN.

of the Bible, 2 vols., of which a 5th ed. was published 1859; and a *Life of St. Thomas à Becket*, 2 vols., 2d ed. (1860).

DARBUNG, *dâr-bŭng'*: mountain-torrent of Bussahir, Hindustan, with a course of only 27 m. It rises about 15,000 ft. above the sea, lat. $31^{\circ} 57'$ n., and long. $78^{\circ} 25'$ e., and loses itself in the Sutlej, the most easterly of the five rivers of the Punjab, in lat. $31^{\circ} 43'$ n., and long. $78^{\circ} 35'$ e. About 7 m. above the point of confluence—having already descended 6,000 ft. in 20 m.—the D. is crossed by a wooden bridge of 33 ft. in length; and even somewhat further up, it is bordered by several villages. Its source has been described as a scene of terrific desolation, consisting of fields of snow and ice half-hid under stones and rubbish.

DAR'BYTES: see **PLYMOUTH BRETHREN**.

DARDANELLES, *dâr-da-nělz'* (anc. *Hellespont*): narrow channel separating Europe from Asia, and uniting the Sea of Marmora with the Grecian Archipelago. It extends from n.-e. to s.-w., between lat 40° — $40^{\circ} 30'$ n., and long. $26^{\circ} 10'$ — $26^{\circ} 40'$ e; length about 40 m., breadth varying from less than 1 to 4 miles. From the Sea of Marmora, a strong current runs through the straight to the Archipelago. To prevent an attack on Constantinople from the Archipelago, the D. is strongly fortified on both sides, with many guns of immense calibre. A treaty concluded between the five great powers and Turkey in 1841 arranged that no ship of war belonging to any nation save Turkey should pass the D. without the express consent of Turkey; all merchant ships being also required to show their papers to the Ottoman authorities. These provisions were confirmed at London 1871 and at Berlin 1878. The D. is celebrated in ancient history on account of Xerxes and Alexander having crossed it, the former B.C. 480, to enter Europe; and the latter B.C. 334, to enter Asia. The point at which Xerxes crossed, by two separate bridges, was in the neighborhood of Abydos, on the Asiatic shore, opposite Sestos. Alexander crossed at nearly the same place; and here also young Leander nightly swam across to visit Hero—a feat performed in modern times by Lord Byron for 'glory.'

DARDANUS, *dâr'da-nŭs*: in Greek mythology, a son of Jupiter and Electra, who killed his brother Jasius to obtain the kingdom of Etruria, and afterward fled to Asia Minor. He married Batia, daughter of Teueer, King of Teucria, and after the death of his father-in-law ascended the throne and reigned over 60 years. He built the city of Dardania, and was believed to have been the founder of the kingdom of Troy. One of the two statues which he erected to the goddess Minerva became known as the Palladium.

DAR'DEN, **MILES**: 1798–1857, Jan. 23; b. N. C.: giant. When 41 years old he was so large that his coat could be buttoned around three men of 200 pounds each; and at the age of 47 he had attained a height of 7 ft. 6 in., and a weight of 871 lbs. He was active and able to work till his 58th year, and at his death weighed somewhat over 1,000 lbs.

DARE—DARGAN.

DARE, v. *där* [AS. *dearran*, to dare. Scot. *dour*, bold, obstinate: Gael. *dúr*, stubborn: Icel. *diarfr*, bold: L. *durus*, hard: W. *dewr*, strong, bold]: to have courage, strength of mind, or hardihood to undertake anything; not to be afraid; to venture; to provoke; to challenge; to defy: N. in *OE.*, defiance; challenge. **DA'RING**, imp.: **ADJ.** bold; fearless; audacious: N. boldness, or a bold act. **DARED**, pp. *därd*. **DARED**, pt. defied. **DURST**, pt. *dêrst*, ventured. **DA'RINGLY**, ad. *-lī*. **DA'RINGNESS**, n. boldness; courage. **DARE-DEVIL**, an audacious reckless fellow: **ADJ.** fearlessly reckless. **DAREFUL**, a. *där'fûl*, in *OE.*, defiant.—**SYN.** of 'daring': brave; venturesome; courageous, intrepid; undaunted; valiant; gallant; heroic.

DARE, v. *där* [Scot. *daur*, to stun, to be stupefied: Sw. *dare*, a fool: AS. *Thor*, the god of thunder: Low Ger. *bedaren*, to be still and quiet—*lit.*, to lurk or lie close from fear]: to daunt; to terrify; to daze. **DA'RING**, imp. **DARED**, pp. *därd*.

DARE, VIRGINIA: b. 1587, Aug., Roanoke, Va.: first child born of English parents in America: granddaughter of Gov. John White and daughter of one of his official staff. Gov. White's expedition to establish an agricultural colony left Plymouth, England, 1587, Apr., and reached Roanoke Island in July. A few days after her birth her grandfather returned to England, and coming back in the following year was unable to see or learn anything of the colony or the child.

DARFUR, *dâr-fôr'*: a prov. of Africa, e. of Sudan, generally said to be in lat. 10°—16° n., and in long. 22°—28° e.; but its limits are not clearly defined. D. toward the s. is hilly, the principal elevation being a mountainous ridge called Murrah, which traverses the country longitudinally, and is the source of numerous streams. Toward the n. D. is level, sandy, and almost destitute of water. During the rainy season (June—Sep.) it exhibits a rich vegetation. The principal products are wheat, millet, rice, maize, and sesame. Tobacco, which is used by the natives in every form, abounds. Water-melons, also, are abundant during the rainy season. Among the fruits are tamarinds and dates. The minerals are chiefly copper and iron. The wealth of the inhabitants of D. consists chiefly in cattle. Horses, sheep, camels, and game abound. D. has considerable trade with Egypt, Mecca, and the inland countries of Africa; it was formerly a notorious centre of the slave-trade. The Furani are an intelligent, well-built race, and have long been Mohammedans. D. was annexed to Egypt 1874—5, and the country organized into four provinces (Umshanga, Fasher, Dara, and Kakkabia). But in 1884 it was found necessary that Egypt should renounce her hold of D. In 1900 both D. and Kordofan came within the sphere of British influence by treaty between Great Britain, Germany and Italy. Pop. over 3,000,000.

DARGAN, *dâr'gan*, **WILLIAM**: born about the beginning of the present c. in county Carlow, Ireland, where his father was a large farmer; died 1867, Feb. 7. He received a

good education, and after spending some time in the office of a surveyor, where he acquired a reputation for integrity and industry, he went to England, and was employed under Telford, then constructing the Holyhead Road. D. resolved to carve out a similar path for himself in his own country, and having returned to Ireland, obtained some small 'jobs,' the beginnings of a career which led to splendid success—for he became one of the first capitalists in Ireland. He contracted for the first railway ever executed in Ireland (the Dublin and Kingstown), and he was afterward connected with most of the great undertakings in that country, such as the making of railways, canals, tunnels, and embankments. He was also an extensive holder of railway stock, a steamboat proprietor, flaxgrower, and farmer. He planned the Industrial Exhibition of Dublin (1853), with the view of developing the resources of his country; and as a help toward its realization, placed £20,000 in the hands of a working-committee. This sum was gradually increased to about £100,000. The Exhibition was opened 1853, May 12, by the lord-lieut.; and was visited by the queen and Prince Albert, when the honor of knighthood was offered to D., but was declined. So far as the Industrial Exhibition was a *personal* speculation on the part of D., it was a failure, for he lost, it is said, £20,000 by it; but in every other respect it was highly gratifying to him, and to every genuine lover of his country. D. was an Irish patriot in the genuine sense.

DARGUE, or DARG, n. *dārg* [Scot. *darg* or *daurk* = a daywerk or daywork]: a day's work; a certain quantity of work. DARGER, n. *dār'gēr*, a day-laborer.

DARIC [from the King Daruis Hystaspes]: a gold coin of ancient Persia, used also in neighboring Asiatic lands, and in Greece; value in gold of the present day. abt. seven dollars.

DARIEN, *dā'rī-ën* or *dā-rē-ën'*: province in the republic of New Granada, corresponding to what is now the state of Panama in Colombia. One of the earliest Spanish settlements on the mainland was in D., the region being then called also by the Spaniards *Castilla de Oro* ('the Golden Castile') and forming the best known part of their *Tierra Firme*. In 1513, the conquistador Balboa, gov. of the Darien settlement, crossed the isthmus with 290 men, and on Sep. 26, first caught sight of the Pacific Ocean. As early as 1528 the idea of a ship canal across the isthmus was entertained; in 1826 a line for such a canal was traced between Panama and Portobello; and between 1843-74 repeated surveys have been made by French, English, and American engineers with the same view. The Inter-oceanic Canal Congress at Paris, 1879, under the auspices of M. Lesseps, approved a route nearly parallel to the railway. A company was formed 1880, under the auspices of M. Lesseps, to make the canal; and operations were commenced 1881: see INTER-OCEANIC SHIP CANAL. For the railway from Aspinwall to Panama, see PANAMA. The principal ports on the n. shore are Chiriqui, Colon or As-

DARIEN—DARIEN SCHEME.

pinwall on Limon Bay, Portobello, San Blas, and Puerto Escoces, on Caledonia Bay.

DARIEN, GULF OF: on the n. coast of S. America, most southerly portion of the Caribbean Sea, about 70 m. in length from n. to s., and 25 from e. to w. The shores are in most places steep, and are in many places fringed with shoals. The southernmost part of the gulf is called the Bay of Choco, into which the considerable river Atrato debouches.

DARIEN, ISTHMUS OF: now usually called ISTHMUS OF PANAMA (q. v.).

DARIEN SCHEME, THE: one of the most disastrous speculations on record, and one which caused unprecedented excitement in Scotland from 1695—in which year the Darien Company was established by act of the Scottish, parliament, sanctioned by royal authority—till 1701, when the last of the disappointed adventurers returned home. The D. S. was projected by William Paterson, founder of the Bank of England. Its object was to plant a colony on the Atlantic side of the Isthmus of Panama, and so form a commercial entrepôt between the eastern and western hemispheres. An entire monopoly of the trade of Asia, Africa, and America, for a term of 31 years, was granted to the company. At that time, the foreign trade of Scotland had been ruined by the English navigation act of 1660, which provided that all trade with the English colonies should be conducted in English ships alone, so that when Paterson opened his subscription-list, the nobility, the gentry, the merchants, and people, royal burghs, and public bodies in Scotland all hastened to subscribe. £400,000 were immediately put down on paper, of which £220,000 were actually paid up. Deputies in England received subscriptions to the amount of £300,000: and the Dutch and Hamburgers subscribed £200,000. The English parliament, however, actuated by a feeling of national antipathy, and the jealous clamors of trading corporations, gave its unequivocal condemnation to the scheme. The British resident at Hamburg, probably with the concurrence of the king (William III.), also made various insinuations against it. The result of this interference was the almost total withdrawal of the Dutch and English subscriptions. It must now be admitted, even by a Scotsman, that there *was* one fatal objection to the scheme—viz., the danger of settling on ground claimed by Spain, without coming to a proper understanding with that country beforehand. Unable, however, to see any sort of obstacles, incited by the vehement eloquence of Paterson, and dazzled by the magnificent proportions of the scheme, the Scotch hurried forward their arrangements. Five ships, with 1,200 men on board, set sail from Leith for Panama 1698, July, 25. They reached their destination in four months, and having bargained with the natives for a country which they called New Caledonia, the colonists fixed the site of what was to be their capital city, New Edinburgh, and built a fort in its vicinity, which

DARIEN SCHEME.

they named New St. Andrews. Having thus constituted their colony, they issued a proclamation of perfect freedom of trade, and universal toleration in religious matters to all who should join them. According to the act which established their company, all goods imported by them, with the exception of foreign sugar and tobacco, were free from all duties and impositions for 21 years; and thus, on the whole, they seemed for the first few months to be on the highway to success. But the climate, tolerable in winter, became unbearable in summer, and many sickened under it; their supplies also failed before they could derive a return from the soil; and on sending to the British colonies in America for provisions, they learned with the deepest indignation and despair that the British American colonies, having been informed that King William had not given his sanction to the expedition, had resolved to hold no intercourse with the new colony at Panama.

Sickly and desponding, they waited long for supplies from the mother-country; but the company at home were not aware of their wretched condition, and none came. At length, having waited eight months for assistance, the colony broke up. In the mean time, 1,300 colonists, including 300 Highlanders from the estate of Captain Campbell of Finab, who had charge of the expedition, had set sail from Scotland, but ere they arrived, the pioneers had fled. A Spanish force of 1,500 men, and a squadron of 11 ships, immediately threatened the newcomers. Captain Campbell marched by night with a body of 200 men upon the Spanish camp, which he broke, and



Scottish India House.

completely dispersed. On returning to the fort, however, he found it invested by the Spanish squadron. The ammunition of the colonists had now become exhausted, and they were obliged to capitulate, the Spaniards granting honorable terms to all except Captain Campbell, who.

DARII—DARIUS I.

however, escaped, and reaching New York, obtained passage to Scotland. The remainder of the colonists, too weak to weigh the anchor of the vessel which was to carry them home, had to be assisted in their departure by the Spaniards. Not more than 30, among whom was Paterson, who was rendered for a time a lunatic by his dreadful misfortunes, ever reached Scotland. Of Paterson, who has been regarded by some writers as a swindler, Lord Macaulay, in his fifth volume of the *History of England*, says; 'There is not the least reason to believe that he was dishonest. Indeed, he would have found more difficulty in deceiving others, had he not begun by deceiving himself. His faith in his own schemes was strong even to martyrdom; and the eloquence with which he illustrated and defended them had all the charm of sincerity and enthusiasm.'

In Edinburgh, as the head-quarters of the D. S., a building was erected to accommodate the officials, and carry on the business of the company. Known as the Scottish India House, this building, now removed, recently existed in connection with the establishment for the poor of the city—a melancholy memorial of a disconcerted national enterprise. The books and other documents which had belonged to the company are in the Advocates' Library, where they are shown as a curiosity. The most complete account of the D. S. is that by J. H. Burton, printed by the Bannatyne Club.

DARII, n. *dâr-î-î*: in *logic*, arbitrary name for a mode of syllogisms in the first figure, in which the middle term is made the subject of the major and the predicate of the minor premise. By this mode we arrive at a particular conclusion from a universal and a particular premise, e.g., All men are mortal: John is a man: therefore John is mortal.

DA RIMINI, *dâ rē'mē-nē*, FRANCESCA: daughter of Guido de Polenta, lord of Ravenna, who to strengthen his house politically, after a series of wars, gave her in marriage to Lanciotto Malatesia, eldest son and heir of the lord of Rimini, though the maiden and her father much preferred the younger, handsomer, and more refined brother Paolo. After the marriage Francesca fell in love with Paolo and began to loathe her husband, who suspecting her fidelity, avenged himself by stabbing both to death in his bed chamber. Her story has been told by Dante in *The Inferno* Leigh Hunt in a poem, Silvio Pellico in a tragedy, and others in various forms.

DARIUS, or DAREIUS, *da-rī'us*, I., King of Persia: d. B.C. 485. (D. was the name of several Persian kings, and like the Egyptian word Pharaoh, was *titular* and not *personal*.) D., who was son of Hystaspes, a Persian noble, leagued himself with six other nobles to murder Smerdis, the Magian, who had usurped the throne on the death of Cambyses. The conspirators, successful in their plot, having after some discussion fixed on the monarchical as the proper form of government, D. contrived to be elected king, B.C. 521. His position at first was very insecure, but

DARIUS II.

his caution, skill, and energy enabled him to govern his vast dominions for 36 years. To strengthen himself, he married the daughter of Otanes, who had been the head of the conspiracy, and likewise took three wives from the royal house—viz., two daughters of Cyrus, and one of Cyrus's son, Smerdis. He then divided his empire into 20 satrapies, and determined the exact amount of taxation to be borne by each. In some of the remoter provinces, great confusion seems to have prevailed after the death of Smerdis, the Magian; and a proof of how little D. could effect at first is afforded by the conduct of Orœtas, gov. of Sardis, who for some time was quite defiant of his authority. Babylon next revolted, and D. besieged the city unsuccessfully for two years. At last, however, it was taken by an extraordinary stratagem of his general Zopyrus, 516. In 513, D., with an army of 700,000, crossed the Bosphorus by a bridge of boats, marched through what is now known as European Turkey to the mouths of the Danube, crossed, and advanced against the Scythians. The expedition proved a failure. D. retreated, but detached from his main force an army of 80,000 men under Megabyzus, to conquer Thrace, while he himself returned to Persia, where he extended his authority in the east as far as the Indus. The assistance given by the Athenians and Eretrians to the Ionic states, when they ventured to throw off the Persian yoke, and the part which they took in the burning of Sardis, determined D., who was influenced thereto also by the banished Hippias, to attempt the subjugation of the whole of Greece. In 495, he sent Mardonius with an army into Thrace and Macedonia, and at the same time dispatched a fleet against the islands. The former was routed by the Brygi in Thrace, the latter was shattered and dispersed by a storm when rounding the promontory of Mount Athos. In 490, he renewed his attempt. His fleet committed great ravages in the Cyclades, but his army was entirely defeated at Marathon by the Athenians, under Miltiades, the 'tyrant' of the Chersonese. In the midst of his preparations for a third expedition, D. died.

DARIUS II., called, before his accession to the throne, *Ochos*, and after his succession, *Nothos* ('the Bastard'): d. B.C. 405-4: one of the 17 bastard sons of Artaxerxes I., Longimanus. When Sogdianus, another of the bastards, had murdered the rightful king, Xerxes II., and assumed the royal power, Ochos declared war against him, slew him, and secured the diadem for himself, B.C. 424-423. He now called himself *Darius*. His reign was ignoble. He was completely under the control of his eunuchs and his cruel step-sister and spouse Parysatis. Rebellions were constantly breaking out among his satraps, all of which, however, were crushed except that of Amyrtæus, satrap of Egypt, who made himself independent, 414. It was during the life of D., and chiefly through the craft of Tis-saphernes, satrap of Asia Minor, and of his successor, Cyrus the Younger, son of the king, that the Persians exercised so great an influence over the affairs of Greece in the last years of the Peloponnesian war.

DARIUS III.—DARK.

DARIUS III., King of Persia (called, before his accession, *Codomannus*), great grandson of D. II: raised to the throne through the help of Bagoas, after the murder of Arses, B.C. 336. He was noted for his mild disposition, handsome person, and courageous spirit. But in spite of his superior qualities, he could offer no solid opposition to the advance of the Macedonians. At the battle of the Issus, 333, his mother, wife, and three children fell into the hands of Alexander; the victory of Gaugamela, 331, opened to the latter the way to Susa and Persia Proper. D. now fled to Eebatana, in Media; and, on the approach of his opponent, fled to the n. provinces, where he was seized by Bessus, satrap of Bactria. Alexander, in a fit of generosity, hurried to deliver Darius. Bessus then prepared for flight, but D. refusing to follow, was stabbed by the barbarian, and left. The scouts of Alexander's cavalry found D. dying, and administered to his last necessities. Thanking the Grecian king for his magnanimity, and commending his family to his care, he expired (330). Alexander sent the dead body to Sisygambis, mother of D., to be interred in the tomb of the Persian kings. With him, the Persian empire, that had so long overshadowed Asia, came to a close.

DARJEELING, *dâr-jêl'ing*: sanitary station of British India, cap. of a dist. in the Sikkim Himalaya; 7,400 ft. above the sea, on a narrow ridge between deep valleys. The lieut. gov. of Bengal spends some months here in summer. Forest-covered mountains rise above it, where the rhododendrons of the Himalaya grow in great luxuriance. It commands a magnificent view of the snowy ranges of the Himalaya to the n. and w. Notwithstanding frequent heavy rains, and a very great annual rainfall, the climate is very salubrious. It was obtained by the British government from the Rajah of Sikkim, 1835. Tea culture has been extensively introduced.

DARK, a. *dârk* [AS. *deorc*; Icel. *dökk*; Gael. *dorch*, dark]: without light; obscure; gloomy; disheartening; opposite to *white*; secret; concealed; applied to a black or swarthy complexion, as opposed to *fair*; vile, as a dark deed. **DARK**, or **DARKNESS**, n. absence of light; obscurity; ignorance, or state of ignorance; secrecy. **DARK'LY**, ad. *-lî*, in a dark manner; obscurely. **DARK'ISH**, a. somewhat dark. **DARK-BROWED**, stern of aspect; frowning. **DARK-COLORED**, having a dark hue. **DARK-HORSE**, a competitor in a contest of any kind, about whose abilities or prowess nothing is certainly known. **DARK-LANTERN**, a lantern having a circular shade, which may be suddenly used to close the aperture and hide the light. **DARK'SOME**, a. *-sîm*, rather dark; obscure. **DARKEN**, v. *dârk'n*, to deprive of light; to obscure; to render gloomy; to render ignorant or stupid; to render less white; to tan; to grow dark. **DARKENING**, imp. *dârk'nîng*. **DARKENED**, pp. *dârk'ènd*. **DARK'LING**, a. *-lîng*, in the dark; without light. **DARK AGES**, an indefinite period, loosely applied to the period extending from the death of Charlemagne, A.D. 814, to the re-

DARK AGES—DARLING.

vival of letters about A.D. 1460; also applied to the period from about A.D. 600 to 1000.—SYN. of 'dark, a.': dim; ignorant; opaque; mysterious; hidden; vile; wicked;—of 'darken': to obscure; cloud; perplex; foul; sully.

DARK AGES: indefinite period between the fall of the Roman empire, in the latter part of the 5th c., and the revival of letters in the 13th c. The Middle Ages covered the same period with the addition of the time before the Reformation, somewhat before the middle of the 16th c. See **MIDDLE AGES**.

DARK DAY, IN NEW ENGLAND: phenomenon of 1780, May 19, extending from Me. into N. Y. and N. J., but most intense in Mass. and the lower portion of N. H. It lasted from 10 o'clock A.M. till midnight, and during its prevalence it was impossible to read ordinary print; candles had to be lighted within doors, and animals mistaking the hour went to sleep. A number of similar but less intense phenomena have been observed in England, Canada, and the United States; and scientists have tried to account for them by alleging the obscuration of the light of the sun by smoke from vast burning forests, volcanic exhalations of smoke and ashes, the escape through crust fissures of vapors generated by the internal heat of the earth, smoke caused by the combustion of meteors, cosmical dust from the regions of outer space, and dust raised in clouds from deserts and moved great distances by atmospheric currents. Prof. F. A. P. Barnard dissented from these theories and ascribed the phenomenon simply to the presence of ordinary clouds of unusual volume and density.

DARKE, *dâr-k*, WILLIAM: 1736-1801, Nov. 26; b. Philadelphia co., Penn.: revolutionary officer. He removed with his parents to Va. when four years old, entered the army when 19, was with Braddock at his defeat, 1755, appointed capt. at the beginning of the Revolutionary war, and was a col. at the surrender of Lord Cornwallis. After the war he was elected to the Va. legislature several times, was a member of the convention that ratified the federal constitution, lieut.col. commanding the left wing of Gen. St. Clair's army when defeated by the Miami Indians, 1791, Nov. 4, had a son killed and was seriously wounded himself in the battle, and became maj.gen. of state militia.

DARKHAN, MOUNT, *dâr-chân'*: lofty granite mountain in Mongolia; lat. 47° 36' n., long. 110° 10' e.; interesting as the place whither annually repair large numbers of Mongolians, to do honor to the memory of Genghis Khan (q.v.), to whom a monument has been erected here.

DARLASTON, *dâr'las-tun*: town, Staffordshire, England, 1½ m. n.n.w. of Wednesbury, 4 m. s.e. of Wolverhampton. It has large coal and iron mines; manufactures several kinds of iron from the ore; and does an extensive business in the production of articles of iron ware. Pop. (1871) 12,841; (1880) 14,416; (1891) 14,422.

DARLING, n. *dâr'ling* [AS. *deorling*, dim. of *deor*, dear]: a much-loved one; a favorite: **ADJ.** dear; dearly beloved; favorite.

DARLING—DARLINGTON.

DARLING, *dâr'ling*: range of mountains in w. Australia, parallel to the w. coast, 10 to 25 m. inland; from the s.w. corner of the colony to a point abt. 250 m. farther north. The range has a height of 1,500 to 2,000 ft.; and in Mount William attains an elevation of 3,000 feet.

DARLING [from Lieut. Gen Sir Ralph *Darling*, gov. of New South Wales 1825-31]: river in Australia, tributary of the Murray river; formed by the union of several head-streams, all of which rise in the great Dividing Range. The chief of these head-streams are the Barwon and Gwydir. The name Darling is sometimes applied to the Barwon especially; usually it refers to the united waters of several streams, above or just below the confluence of the Castlereagh and the Macquarie. Farther down the Darling receives the Culgoa and the Warrego from the n., and the Bogan from the south. Its length is stated at 850 m., and it and its tributaries are estimated to drain 198,000 sq. m. It joins the Murray at Wentworth, having received no tributary in its lower course. Much of the district traversed by it is an arid plain, save near the river bank; the river is subject to floods.

DARLING: district at the s.w. corner of New South Wales, scantily watered; 50,000 sq. miles.

DARLING, GRACE: 1815, Nov. 24—1842, Oct. 20; b. Bamborough, England; daughter of William D., light-house keeper on Longstone, one of the Farne Islands. On the morning of 1838, Sep. 7, the *Forfarshire*, which, with 63 persons on board, had been wrecked among the Farne Islands, was seen by Darling from his light-house, lying broken on the rocks. At the solicitation of his daughter, then in her 22d year, he put off through the storm to the wreck, his only companion the girl who prompted the noble act. By wonderful strength and skill, they brought their boat to where the sufferers (nine in number) were crouched in momentary expectation of a watery grave, rescued them, and bore them safely to Longstone. The undertaking, so daring and successful, drew public admiration. The light-house at Longstone, no longer solitary and peaceful, was visited by many of the wealthy and the great. Presents, testimonials, and money were heaped at the feet of the heroine; but she did not long survive her change of circumstances. She died of consumption, after a year's illness. See *Grace Darling*, by E. Hope (1876).

DARLING DOWNS: lands in Australia, forming the richest pastoral district of Queensland, in the s. part of the colony. This is an upland district on and about the summit of the Dividing Range; 6,080 sq. m. It was discovered by Allan Cunningham, the botanist, 1827. There is also much fine agricultural land in which the cereals, potatoes, and all kinds of vegetables grow well.

DARLINGTON, *dâr'ling-ton*, or **DARNTON**, *dârn'ton*: parliamentary and municipal borough in the south of the county of Durham, England, on the slope of a hill overlooking the Skerne near its junction with the Tees. The chief industry of the place is connected with the extensive

DARLINGTONIA—DARN.

locomotive works. Brewing and tanning are carried on; and there are wool-mills. D.'s prosperity dates from the opening, 1825, of the Stockton and Darlington railway, mainly for carrying coals, and the first on which locomotive engines were employed. From the 11th c. the town belonged to the bishops of Durham, and till 1867 a borough bailiff, appointed by the bishop, managed its affairs; in that year it obtained a charter of incorporation. Near D. was the seat of George Allan the antiquary. St. Cuthberts, the beautiful parish church, built in the 12th c., has three carved stone stalls, and a tower 180 ft. high. At Oxen-le-field, 3 m. from D., are curious cavities of unknown origin, called Hell Kettles. Many of the people of D. belong to the Society of Friends, long prominent in the place. —Pop. (1881) 35,102; (1891) 38,060.

DARLINGTONIA, n. *dâr-lîng-tō'nĭ-a* [named after Dr. *Darlington*, an American botanist]: genus of pitcher-plants, belonging to the order *Sarraceniaceæ*. The *D. Californica* grows in the n. part of California, chiefly in the district around Mt. Shasta. It is found in boggy places, on the slopes of mountains. It entraps insects, which are attracted to the curious hood or pitcher at the extremity of the tubular leaves; and, once inside, are prevented by the fine hairs which point downward from again returning. Sometimes the leaf-stems at their base are filled to the depth of four or five inches with insect remains. The larva of a small moth, *Xanthoptera semicrocea*, preys on the plant, and that of a dipterous insect, *Sarcophaga sarraceniæ*, feeds on the dead insects which it incloses.

DARMSTADT, *dârm'stât*: town of Germany, cap. of the grand-duchy of Hesse-Darmstadt, residence of the grand duke, and seat of govt.; on the river Darm, 15 m. s. of Frankfurt-on-the-Main. It consists of an old and new town, both surrounded by walls and ditches. The streets of the former are narrow and squalid; those of the latter present many imposing specimens of architecture. D. has five public squares, from the centre of one of which a fine Doric column rises to the height of 134 ft., and is surmounted by a statue of the Grand Duke Louis who founded the new town. Besides the arsenal, the barracks, and the various religious edifices, one of which is crowned by a dome supported upon 28 large columns, D. has two palaces; one of these, the old ducal palace, contains the museums of painting—comprising 700 pictures, some of them by the most famous of the old masters—and natural history, in which are shown fossil remains of the dino-therium. The palace contains also a public library of 380,000 vols. D. is more dependent upon its ducal court and the government, which holds its seat there, than upon its commerce or manufactures, though these are now becoming more important. Pop., with suburb (1900) 72,381.

DARN, v. *dârn* [originally signified a patch: OF. *darne*, a slice: W. *darn*, a piece, a fragment; *dyrnaid*, a handful: Gael. *dòrn*, a short cut, a piece; *dornan*, a handful]: to mend a rent or hole by interlacing it with stitches; to sew

DARNEL—DART.

together in imitation of the texture of the stuff. DAR'NING, imp. DARNED, pp. *dârnd*. DAR'NER, n. one who. DARNING-BALL, n. an egg-shaped ball, made of hard wood, ivory, cocoa-nut shells, or glass, and employed as a substitute for the hand in the darning of stockings; a darning-last. DARNING-LAST, a potato, a small gourd, or anything similar, used to stretch a portion of a stocking while being darned. DARNING-NEEDLE, a long strong needle for mending holes or rents.

DARNEL, n. *dâr'něl* [Lith. *durnas*, foolish, crazy: Sw. *dare*; Ger. *thor*, a fool—from the supposed effects of the plant when eaten], (*Lolium temulentum*): grass of the same genus with the valuable RYE-GRASS (q.v.), an annual, common in grain-fields in many parts of Europe. It has no tufts of leaves from the root, the glumes are as long as the spikelets, or longer, the spikelets contain 5-7 florets which are awned. This grass has from ancient times been reputed to have a narcotic poisonous seed, to which many bad effects were ascribed, which, in years of bad harvest, were observed to ensue upon the eating of bread or the feeding of horses upon oats. Even Lindley, in his *Medical and Economical Botany*, 1849, ascribes narcotic and acrid qualities to D. seed, and speaks of fatal consequences as produced by it when mixed with flour, saying that it 'is the only authentic instance of unwholesome qualities in the order of the Grasses.' This statement is adopted by Asa Gray, but disputed by others, who maintain the perfect harmlessness of this grass and its seed, and refer the effects to damaged grain.—The Common D. (*L. perenne*), Ray Grass or Rye-grass, has the glume shorter than the spikelet, 8-15 flowers. It is a fair pasture grass.



DARNETAL, *dâr-né-tâl'*: town of France, dept. of Seine-Inférieure, about 2½ m. e. of Rouen. It is well built, and has two Gothic churches. Situated at the top of a narrow valley, and intersected by two streams, D. possesses unusual facilities for cloth and other woolen manufactures. Pop. (1891) 6,609.

DARNLEY, *dâr'n'li*, HENRY STEWART, Lord: 1546-1567, Feb. 10; b. England; cousin and husband of Mary Queen of Scots (q.v.).

DARRAIGN, or DARRAIN, v. *dâr-rân'* [OF. *desrener* and *dérainer*, to deny very strongly—from mid. L. *deratiōnārē*, to settle the legal account]: in *OE.*, to answer an accusation; to settle a controversy by battle; to arrange an army in order of battle.

DART, n. *dârt* [F. *dard*; OF. *dart*, a dart: Bret. *tarz*, a clap: W. *tarddu*, to spring forth or appear, as the dawn: It. *dardo*: AS. *darath*]: a short lance; a sharp-pointed weapon to be thrown by the hand: V. to throw a pointed weapon with a sudden thrust; to shoot; to send rapidly; to emit, as the sun: to spring or run with celerity; to start suddenly and

DARTARS—DARTFORD WARBLER.

run. DART'ING, imp.: ADJ. throwing out or sending forth darts, rays, and the like. DART'ED, pp. DARTER, n. one who; a bird of the pelican family inhabiting Africa and America. DART'INGLY, ad. -ly.

DARTARS, n. *dart'èrz* [F. *dartre*, ringworm, tetters]: an ulcer on the skin, to which lambs are subject.

DARTER (*Plotus*): genus of birds very nearly allied to



Darter (*Plotus Anhinga*).

cormorants (q.v.), but having a bill longer than the head, perfectly straight, slender, and sharp-pointed; remarkable also for the great length of the neck, which has obtained for them the name of *Snake-birds*. They derive the name D. from darting forward their bill at their prey by means of their long flexible neck. They are very voracious, and eat great quantities of fish, which they swallow entire. They are found in the warm parts of Africa and America.

DARTFORD, *dàrt'ford* (Saxon, *Darentford*): town in the n.w. of Kent, 17 m. e.s.e. of London by rail, on the left bank of the Darent, which is navigable for barges. It lies in a narrow valley between two steep hills. It has large corn-mills, cotton and silk printing-works, large powder and paper mills; also manufactures of oil, iron, and machinery. Near D. stood the first rolling, slitting, and wire-drawing mill in England, as well as the first paper-mill, built by Spielman (d. 1607). Here stand the ruins of a nunnery, founded 1355 by Edward III., with 12 acres of walled orchards and gardens. This king held a tournament here 1331. Wat Tyler's insurrection, in the reign of Richard II., broke out at D. 1381. Watling street, an ancient Roman road, crossed the river here. Near D. Heath are many ancient chalk hollows and pits, with deep shafts leading to numerous chambers and galleries, excavated probably for sepulture, for retreat, or to procure the chalk. Pop. (1881) 10,567; (1891) 11,962.

DARTFORD WARBLER, n. *dart'fèrd wawor' blér*: the *Sylvia provincialis*,

DARTMOOR.

DARTMOOR, *dârt' môr*: granitic table-land in the s.w. part of the county of Devon, England, remarkable for its wild and rugged scenery, its towering rock-capped hills, the numerous streams that have their source in its boggy soil, and the many cyclopean relics of the aboriginal inhabitants scattered over its solitary wastes, where the deep silence is broken only by the sudden flight of the ring-ouzel, the screams of the curlew, or the shrill whistle of the lapwing, dotterel, or stone-plover. D. Proper (or the ancient and royal forest of that name) and its adjuncts, including the outlying common lands that present the same physical features, extend about 20 m. from e. to w., and 22 m. from n. to s., occupying one-fifth of the entire area of the county of Devon, or more than 130,000 acres. This moorland region, encircled by a natural rampart, moated by deep valleys, has a very considerable elevation above the surrounding country, and culminates in Yes Tor, 2,050 ft. above sea-level. Its broken uneven surface has been compared, not inaptly, to 'the long rolling waves of a tempestuous ocean, fixed into solidity by some instantaneous and powerful impulse.'

The most important *rivers* that rise in northern D. are the Dart, the Teign, the Taw, the West Ockment or Ockment, the Lyd, the Tavy, and the Walkham; while from the swamps of southern D. spring the Plym, the Yealm, the Erme or Aime, and the Avon, Aven, or Aune.

Geologically, D. is formed, for the most part, of granite rock, protruded through the shales, slates, and sandstones of the Devonian system. Large masses of trap occur at White Tor, Cock's Tor, and other localities. Tin, copper, and manganese are found among the granite, of which four varieties—common, finer, red, and compact—are distinguished. These, as well as the several kinds of trap-rock, are much used for building, etc. At Wheal, Duchy, and Birch Tor are productive tin mines. The *soil* of D. is chiefly of peat, which in the bottoms has accumulated in some places to the depth of 25 ft.; it rests on a subsoil of fine sand. Many of the well-watered dells and ravines are fertile, while the whole moor affords pasturage for cattle, sheep, and horses. Among the mosses and lichens, with which the region abounds, are the *Lecanora perella* and the *L. tartarea*, or Cudbear Lichen: see CUDBEAR. Some years ago, both these lichens were largely exported; and it is said that, from 1762 to 67 inclusive, nearly 100 tons of the *L. tartarea* were collected from the tors of the moor. Wistman's Wood, a grove of stunted oak-trees, averaging about 10 ft. in height, is of venerable antiquity. It stands on a rocky declivity about 400 yards in length, and measures less than 100 yards across the widest part. The *ornithology* of D. is more limited than formerly; the progress of cultivation and the preservation of game are driving away the eagle, the bustard, the crane, and the kite, which are now rarely seen. The blackcock is likewise becoming extinct. Dr. Moore says: 'The frequenters of the uncultivated parts are now chiefly the sparrow-hawk, the hobby, the goshawk, the hen-harrier, the brown or marsh harrier, and the buzzard,

DARTMOUTH.

The *antiquities* of D., as illustrating ancien periods of British history, are worth attentive study; of these, the Grey Wethers, below Sittaford Tor—a fine specimen of what is usually styled a Druidical circular temple—the vestiges of a large aboriginal village at Grimspound, the cromlech at Drewsteignton, the logan-stones and stone-avenues, the kistvaens, barrows, cairns, rock-pillars, and ancient trackways, whose story the old tors alone could tell, are examples. Many legends and stories of moorland adventure are related; but the most famous is that of the bold hunter, Childe of Plymstock, whose fate Carrington has celebrated in a spirited ballad. See Carrington's *Poems*, Mrs. Bray's *Tamar and Tavy*, and Murray's *Handbook for Devon and Cornwall*.

During the long war with France, consequent on the great revolution and the career of Napoleon, a prison was erected in the centre of the w. quarter of D., at about 1,400 ft. above sea-level, for the accommodation of prisoners of war. The first stone was laid 1806, Mar. 20, and the building was finished at a cost of £127,000. Prince Town sprang up close by, and soon became a thriving place. The prison is now used as a depot for convicts, who are employed in cultivating the adjacent moor.

The castle, manor, and forest of D. were granted by Henry III., to his brother Richard, Earl of Cornwall; and since 1337, D. has been permanently annexed to the Duchy of Cornwall.

See De la Beche's *Report on the Geology of Cornwall, Devon, and West Somerset* (Lond. 1839); and for a full account of D., *A Perambulation of the Ancient and Royal Forest of Dartmoor*, etc., by Rev. S. Rowe (1856); which contains valuable *Papers on the Geology, Soil, Botany, and Ornithology of Dartmoor*, by Ed. Moore, M.D.

DARTMOUTH, *dârt'mûth*: municipal borough and seaport in the south of Devonshire, England. It is built in terraces on a steep slope 300 to 400 ft. high, on the right bank of the romantic estuary of the river Dart, at a short distance from the sea. D. is 32 m. s.-by-w. of Exeter. The streets are narrow, and many of the houses very old, with overhanging stories, projecting gables, and wood-carvings. St. Saviour's Church, of the 14th c., has a richly sculptured, painted, and gilt stone pulpit, a highly ornamented interior, and a beautifully carved rood-loft. A battery, and the remains of a castle built during the reign of Henry VII, stand at the entrance to the harbor. Many of the inhabitants are engaged in the pilchard and Labrador fisheries. The chief exports are woolens, cider, and barley. D. is a quarantine port of the English Channel, and has considerable trade with the Mediterranean. In 1880, 945 vessels, of 81,355 tons, entered, and 887, of 71,499 tons, cleared the port.—At D., in 1190, the crusaders, under Richard Cœur-de-Lion, embarked for the Holy Land. The French burned the town in the time of Richard I, but were repulsed in a third attack on it 1404. In the reign of Edward III, D. furnished 31 ships for the siege of Calais. In 1643, Prince Maurice besieged

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and garrisoned D. for Charles I; but in 1646, Fairfax stormed and took it. Newcomen, inventor of the steam-engine, was an ironmonger here. Pop. (1891) 6,038.

DARTMOUTH COLLEGE, *dart'mūth*: at Hanover, N. H.; fourth oldest of the New England colleges. It is the outgrowth of a school for the education of Indian children established by Eleazar Wheelock, D.D., at Lebanon, Conn., 1754, and named Moor's Charity School in honor of Joshua Moor, a farmer, who presented it a building and two acres of land. Subsequently Samson Occom, one of Dr. Wheelock's brightest Indian pupils, and the Rev. Nathaniel Whitaker, went to England, presented the cause to influential people, received subscriptions of nearly \$50,000, and organized a board of trustees, of which Lord Dartmouth was elected pres. In the meantime the success of the institution through its popularity among the Indians had created a necessity for larger accommodations. Of the many sites offered Dr. Wheelock he chose that of Hanover, and was granted about 44,000 acres of land. Through the efforts of its English friends a charter for a college to be connected with the school was obtained from George III., and issued by John Wentworth, the last royal gov. of N. H., 1769, Dec. 13. In 1770 Dr. Wheelock removed his family and school to Hanover, and in the following year graduated his first college class, four in number. On the organization of the college, Dr. Wheelock was elected its first pres., and Lord Dartmouth's name was given it in recognition of his valuable services. Pres. Wheelock died 1779, and was succeeded by his son, John Wheelock, LL.D., who served as pres. till 1815, when he was removed by the trustees in consequence of radical differences of opinion concerning questions of administration. In 1816 the legislature of N. H. claimed the right to amend the royal charter, and passed acts changing the title of the college to Dartmouth University, creating a new corporation, and vesting the college property in it. The trustees opposed the act, and with a view of testing its constitutionality began a suit in the supreme court for the recovery of the college property. This court sustained the action of the legislature, and the trustees appealed to the U. S. supreme court, of which John Marshall was then chief-justice, where the cause of the college was successfully argued by Daniel Webster. The corporation created by the legislature chose ex-pres. Wheelock as pres. of the univ., and on his death a few weeks afterward elected William Allen, D.D., pres. He retained the office till the decision of the U. S. supreme court was made known, when Francis Brown, D.D., who had been elected by the old board to succeed pres. Wheelock 1815, was inaugurated. His successors have been Daniel Dana, D.D. 1820-22; Bennet Tyler, D.D. 1822-28; Nathan Lord, D.D. 1828-63; Asa Dodge Smith, D.D., LL.D., 1863-77; Samuel C. Bartlett, D.D., LL.D., 1877-92; William J. Tucker, D.D., LL.D., 1893. From its inception D. C. has been conducted on a conservative plan. It has aimed at a high religious tone, and though most of its trustees and teachers have been Congregationalists, it has never been sectarian in its teachings. It holds fast the old

DARTMOUTH COLLEGE.

idea of the American college, whose object is that general and symmetrical training which should precede [the particular and professional. D. C. believes in a carefully devised curriculum and in the ancient classics; yet readily admits to the former the elective principle, and encourages the studies of science and modern languages. She has already a number of options, both as to courses and as to particular studies, and, while adhering to the old college forms, has provided several collateral or post-graduate institutions, offering diversified opportunities of general and special culture. These various depts. as they now exist are as follows: (1) The old academic dept., with its four years' curriculum, including the privilege of a partial course, and a number of particular options. (2) The Chandler scientific dept. established 1851 through a bequest of \$50,000 made by Abiel Chandler, with a regular four years' course, and having, with the option of a partial course through all the years, several elective lines of study in the last year. Latin and Greek are omitted, French and German included, scientific branches are made most prominent, and degrees of B. Sci. and M. Sci. are conferred. (3) The agricultural dept., or the N. H. college of agriculture and the mechanic arts, established 1866 under the conditions of a grant of land by the federal govt., with a three years' course, with the choice, after the first year, of an agricultural or mechanical line of study. The course embraces mathematics, physics, drawing, book-keeping, botany, chemistry, physiology, zoology, mechanics, political economy, and geology. The college has an experimental farm of nearly 200 acres, and confers in this dept. the degree of B. Sci. (4) The engineering dept., or Thayer school of civil engineering, established 1871, through a gift of \$70,000 by Gen. Sylvanus Thayer. This is substantially, though not formally, a post-graduate or professional dept., with a two years' course. The requisites for admission are, in some important branches, even more than a college curriculum commonly embraces; and it is designed to carry the study of civil engineering to the highest point. (5) The medical dept., or the old N. H. medical college, established 1797, which has had a long and prosperous career, and now ranks with the best medical institutions in the country. There is connected with it, in addition to an annual course of lectures of 20 weeks, a good course of private medical instruction. (6) Moor's Charity School, though no longer a distinct organization, has an official recognition still in consequence of a fund belonging to it, which is appropriated to the education of Indian children under the direction of the pres. of the college. The chair of law and political science, established 1885, with James F. Colby as prof., is the latest addition to the curriculum. D. C. has an astronomical and meteorological observatory with numerous valuable instruments, a museum of pathological anatomy, a museum of geology and natural history, gymnasium, chemical laboratory, extensive philosophical apparatus, and several dept. and general libraries. In 1902, there were 66

members of the faculty, 787 students, and 85,000 vols. in the several libraries of the institution. President, William J. Tucker, D.D., LL.D.

DARU, *dâ-rü'*, **PIERRE ANTOINE NOEL BRUNO**, Comte: 1767, Jan. 12—1829, Sep. 5; b. Montpellier: author, also one of the ablest of the first Napoleon's ministers. In his 16th year he entered the army. In 1791, he was appointed intendant of the army of Brittany; but having the misfortune to speak ironically of the English as 'our *friends*,' the suspicious revolutionists threw him into prison as a royalist, where he remained till the fall of Robespierre. He spent his time in translating the Odes and Epistles of Horace (*Traduction en Vers des Poésies d'Horace*, 1800). Subsequently, he translated the Satires. In the same year in which his version of Horace appeared (1800), he published *Cleopédie, ou la Théorie des Réputations en Littérature*, a work full of spirit and felicitous turns of thought. His firmness, fidelity, and industry recommended him to Napoleon, who, 1805, made him a councilor of state, and, at a later period, intrusted him with the portfolio of the war-department. After the restoration of the Bourbons, he was made a peer. Thenceforth, he applied himself exclusively to letters. D. was a member of the Institute and of the Acad. of Sciences. His writings are numerous. Besides those above mentioned, the chief are *Histoire de la République de Venise* (7 vols. 1819–21); *Histoire de Bretagne* (3 vols. 1826); *Eloges*; *Génie du Christianisme*; *Discours sur les Facultés de l'Homme* (in verse); *Discours sur la Liberté de la Presse*.

His son, **NAPOLEON**, Count D., 1807, June 11—1890, Feb. 20, b. Paris, was a godson of Napoleon I, and the Empress Josephine, educated at the Lycée Louis-le-Grand, graduated at the Polytechnic School 1825, and served with the artil. in the army till 1847. On the death of his father, he entered the chamber of peers and supported the Orleans monarchy. After the revolution 1848 he adhered to the republic, was twice elected to the constituent assembly, and was its vice-pres. 1850–1. For protesting against the *coup d'état* 1851 he was imprisoned some time in Vincennes by order of Louis Napoleon. He was elected a deputy 1869, joined the 'left centre' party, became a member of Ollivier's cabinet 1870, June 2, succeeded Prince de la Tour d'Auvergne at the head of the dept. of foreign affairs, and openly advocated the return of the Orleans princes. During the Franco-German war he was a member of the committee of defense, 1871 was elected to the national assembly, 1876 was elected senator for La Manche, and 1879 retired to private life. He received the decoration of the Legion of Honor 1840, was elected a member of the French Acad. 1860, and published several political treatises.

D'ARUSMONT—DARWIN.

D'ARUSMONT, *dá-rü-mōng'*, FRANCES (maiden name, FANNY WRIGHT): 1795, Sep. 6—1852, Dec. 14; b. Dundee, Scotland: reformer. She was left an orphan when nine years old, and early imbibed the ideas of Adam Smith, Dr. Cullen, and other men of the day, for the improvement of the conditions of human life. She removed to the United States 1818 and spent three years in travelling and studying the phases of social life, then passed four years in France, and, returning to the United States 1825, purchased a tract of 2,000 acres in Tenn., and established a colony of emancipated slaves. The attempt to enlighten and educate them proved a failure, and she then became a lecturer on social, political, religious, and educational topics, and had numerous societies of people who accepted her advanced views organized under her name. She was a fervent advocate of the abolition of slavery. In 1838 she married M. D'A. in France, but soon separated from him and made her permanent abode in Cincinnati. She was author of *Views on Society and Manners in America* (London 1821); *A Few Days in Athens* (London 1822); *Lectures on Free Inquiry*, (New York 1829-36); and *Altorf*, a tragedy (Philadelphia 1819).

DARWIN, *dâr'wīn*, CHARLES, F.R.S.: English naturalist of highest eminence: 1809, Feb. 12—1882, Apr. 19; b. Shrewsbury; son of Dr. Robert W. D., F.R.S., and grandson of Erasmus D. (q.v.). His mother was daughter of Josiah Wedgwood, famous manufacturer of pottery. After attending a public school at Shrewsbury, he studied at Edinburgh Univ. for two sessions, thence proceeded to Christ's College, Cambridge, where he took his degree B.A. 1831. He then volunteered to go as naturalist in H.M.S. *Beagle*, commanded by Captain Fitzroy, R.N., and started for a survey of S. America, and the circumnavigation of the globe, 1831, Dec. 27, returning to England 1836, Oct. 2. His entire life afterward, so far as his health permitted, was devoted to scientific researches. D. was a fellow of the principal scientific societies, obtained the Royal Society's medal, and the Wollaston medal of the Geological Society.—His earliest well-known work, *The Voyage of a Naturalist* (2d ed. 1845), is interesting and beautifully written. In 1839 was published his *Journal of Researches into the Geology and Natural History of the various Countries visited by H.M.S. Beagle*; in 1840-43, *Zoology of the Voyage of H.M.S. Beagle*, published by govt., to which D. contributed the introduction, and many of the notes; in 1842, *The Structure and Distribution of Coral Reefs*; in 1844, *Geological Observations on Volcanic Islands*; in 1846, *Geological Observations on S. America*. He also wrote many papers in the *Transactions of the Geological Society*. In 1851-53, appeared his valuable *Monograph of the Cirripedia*; and in 1859, D.'s name became 'familiar as a household word' to the mass of educated and semi-educated Englishmen and Americans through the publication of his work, *The Origin of Species by means of Natural Selection, or the Preservation of Favored Races in the Struggle of Life*. In the *Origin of Species*, D. contends that the various species of plants and animals, instead of being each specially created and immutable, are continually suffering change through a

process of adaptation, by which those varieties of a species that are in any way better fitted for the conditions of their life survive and multiply at the expense of others. So potent and universal does this process of natural selection seem to be, that D. considers it capable, with other less important causes, of explaining how all existing species may have descended from one or a very few low forms of life. This theory excited fierce controversies, awaits complete proof; but it has been embraced by many of the ablest naturalists, and has induced great changes in the methods of biology and kindred sciences: see DARWINIAN THEORY: SPECIES. Other works are: *Fertilization of Orchids* (1862); *Variations of Plants and Animals under Domestication* (1867); *The Descent of Man and Selection in relation to Sex* (1871); *Expression of the Emotions in Man and Animals* (1873); *Insectivorous Plants* (1875); *Climbing Plants* (1875); *The Effects of Cross and Self-fertilization in the Vegetable Kingdom* (1876); *Different Forms of Flowers in Plants of the same Species* (1877); *The Power of Movement in Plants* (1880), a work in which it was proved that every growing part of every plant is always moving round or 'circumnutating,' as D. calls it; *The Formation of Vegetable Mold through the Action of Worms* (1881). The latter work, which excited great popular interest, showed that a part of the mold which covers the globe is the work of earth-worms, having been voided by them as worm-castings. D.'s caution in statement was very noticeable: it has not been imitated by all his followers. He received many high distinctions, such as the Prussian order *Pour le Mérite* (1871), degrees from Leyden and Cambridge, and the membership of the French Acad. (1878). His death called forth universal expressions of respect, and he was buried in Westminster Abbey.

DARWIN, ERASMUS, M.D.: 1731, Dec. 12 — 1802, Apr. 18; b. Elton, near Newark, Nottinghamshire, England: physician, natural philosopher, and didactic poet. He studied first at Cambridge, afterward at Edinburgh, where he took his degree; and settled in Derby, where he died. D. had formerly great reputation as a physiologist, but his system is, for the most part, inconsequential, baseless, and untenable. Yet many of his ideas are original, suggestive, and contain germs of important truths. His strength and his weakness lay in his faculty for seeing analogies in nature. Sometimes he is exceedingly happy in his discoveries; at other times quite fantastical. The same is the case with his verse, where, amid the frequent extravagance and incomprehensibility of his notions, there burst forth strains of genuine poetry. Interest in his speculations has been revived by the recognition of his partial anticipation of Lamarck's views on evolution, and so of the views of his own famous grandson. D.'s chief works are *Botanic Garden*, in verse (1781); *Zoonomia, or the Laws of Organic Life* (1793); *Phytologia, or Philosophy of Agriculture* (1800). See Krause's *Life of Erasmus Darwin*, trans. by Dallas (1879).

DARWINIAN THEORY.

DARWINIAN THEORY, *dár-wîn'î-ăn*: theory of the origin of species, set forth by Charles Darwin, 1859; called sometimes the *theory of development*, or the *evolutionary hypothesis*. Before presenting the theory of Evolution of Plants and Animals by Natural Selection, as promulgated by Charles Darwin (q.v.), it is necessary to consider the scope and aim of biological science; also, the influence exerted upon biology by the progress of other departments of knowledge.

1. *Nature of Biology*.—The primary labors of the botanist and zoologist are to collect and preserve, to describe and figure the innumerable and varied forms occurring in nature; in this task, therefore, naturalists have been occupied since the earliest times. The increase of such knowledge necessitated the attempt at orderly arrangement and intelligible cataloguing—problems solved by Linnæus, whose *Systema Naturæ* first satisfactorily organized the natural history sciences.

The detailed study of internal structure, as well as of external form, commenced by Hunter and Haller, was enormously extended by Cuvier (q.v.), whose labors resulted in the conception that the multitudinous forms of animal life were all organized upon a few distinct plans, of which he defined the vertebrate, molluscan, articulate, and radiate; while Geoffroy St. Hilaire and Goethe were principally instrumental in introducing the idea of homology (see **METAMORPHOSIS**). But it is not sufficient to analyse the organism into its constituent organs, and to describe and compare these; we must inquire into their minute structure. These organs were analyzed into *tissues* by Bichât, and these again into their component protoplasmic units—*cells*—by Schleiden and Schwann, and thus anatomy acquired the subordinate province of *Histology*. Finally, the mode of origin of the adult organism from the germ or egg comes to be investigated, and after thus adding to our previous knowledge that of *Embryology*, we are in a position to complete our summary of the structural aspects of an organism by defining its relation to its fellows—in other words, by fixing its position in the natural system of classification. These subjects of anatomy, histology, embryology, and *Taxonomy* or classification constitute the science of *Morphology*.

But an organism has yet other aspects, functional as well as structural, dynamical as well as statical; its organs have activities, and for the study of these, a new department of biology must be constituted—*Physiology*, which (though, by reason of the urgent needs of the practitioner and the student of medicine, as yet mainly concentrated upon the study of the functions of the human body) has a field co-extensive with morphology.

To the consideration of the forms and the activities of organisms, a new line of inquiry has been much more recently added, that referring to the position in time and space in which the organism occurs, and the answer to this comes under a new head, that of *Distribution*, chronological (geological) or geographical, as the case may be.

These three great divisions of biological knowledge, mor-

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phological, physiological, and distributional, being constituted, the questions *what*, *how*, and *where* being approximately answered (and since the search for final causes—for the *why*—is outside the field of merely physical science), only one more possible inquiry remains—namely, *whence* these organisms, with their particular structures, functions and positions in space and time? In other words, how did all these phenomena arise—what is their *origin* or *Ætiology*?

The necessity for a theory of the origin of plants and animals thus coming to be felt, only two hypotheses present themselves since the suggestion that they may have existed in their present state from infinite time, is not only incapable of support by positive evidence, but absolutely negatived by geology. The first and historically earlier hypothesis is that of Special Creation, which assumes the sudden origin of the existing species, without reference to previously existing species, by the intervention of supernatural causes; the second is that of Evolution, and assumes the gradual origin of the existing species from pre-existing species by ordinary descent, with modification by the action of natural causes. Reflection will show (1) that the idea of cause, though presented in different forms by the two rival hypotheses, and at different degrees of remoteness, is not excluded by one more than by the other; and (2) that just as the hypothesis of the origin of solar and stellar systems from nebulæ is considered on its own merits, without confusion with any hypotheses which may subsequently arise as to the origin of the nebulæ themselves, so we must separate the inquiry as to the origin of *species*, with which alone the Darwinian theory is concerned, from all subsequent hypotheses as to the origin or the nature of *life* (see LIFE: GENERATION, SPONTANEOUS), thus keeping clear of the misunderstandings and misrepresentations with which the subject has too frequently been encumbered.

First in order, therefore, the argument for and against the theory of the origin of species by special creation demands our examination, of course on scientific grounds alone. From the naturalist's point of view, it is urged that not only is no scientific evidence for special creation forthcoming, but that the theory fails to explain the existing facts, much less to act as an instrument of research; while on philosophical grounds, it is objected that it tends to exclude scientific explanations of existing facts, and stands discredited *a priori* as the last survivor of a series of universally diffused pre-scientific beliefs in the irregular and arbitrary occurrence of phenomena, and so is destitute of support from analogy; that it neither satisfies the intellectual wants, nor meets the moral difficulties of the explanation of nature; and, that it is a purely verbal hypothesis, incapable of any definite representation in thought. Passing to the second theory, we find it strongly urged in the first place, that not only is much evidence forthcoming, but that it does plausibly explain the known facts, and is even serviceable in the search for new ones; that it belongs to that class of explanations in terms of the natural order of things which have now superseded the system of catastrophie and contra-natural

hypotheses in every other field of knowledge; that it is capable of clear representation in thought; and that it satisfies not merely the intellectual wants, but meets the moral difficulties. For full development on the naturalist's side of this most general form of the discussion, see Spencer's *Principles of Biology*, vol. i.

2. *Influence on Biology of Progress in other Sciences.*—The enormous progress of every department of knowledge during the past few generations has lain not merely, as is commonly supposed, in ever-increasing minuteness of specialization upon ever-multiplying details, but rather in the concentration of innumerable previously unrelated phenomena into few groups, and of these again into fewer; through the construction of far-reaching hypotheses, which (as is claimed), surviving and satisfying scrutiny and criticism, observation and experiment, have passed through stages of possibility and likelihood, to that of overwhelming (or as it is claimed practically infinite), probability, and are then termed generalizations, or more figuratively, laws. A rich harvest of such general conceptions has been garnered by astronomy, and such successive labors as those of Copernicus, Kepler, and Newton, in widening our knowledge of the universe, have widened not a little the theoretic range and grasp of the scientific intellect. And it is important to bear in mind, first, that each of these advances consisted, as every such advance must do, first, in the employment of a promising though yet unverified scientific hypothesis; afterward in the substitution of that hypothesis when finally verified, for a provisional, though time-honored explanation, in terms of the mysterious and supernatural; and, secondly, that a theory of the evolution of solar and stellar systems (see NEBULAR HYPOTHESIS) is largely maintained by modern astronomers. Thus the naturalist's claim is that his hypothesis of the evolution of plants and animals by natural selection, takes equal rank for evidence with the law of gravitation, and similar modern discoveries—a claim not conceded by his opponents, nor even by many who concede that a general probability pertaining to one or another theory of evolution.

In chemistry, such conceptions as those of molecular constitution, and of the indestructibility of matter, of the similarity in composition of our planet with sun and stars, and of the intimate relation between inorganic and organic compounds, are highly instructive; while the actually observed genesis of many species of minerals by the action of natural causes, and the frequent transmutation of one species into another, when some definite change takes place in the surrounding conditions, are not without interest. Moreover, to the theory of the conservation of energy (see FORCE) unifying as it has done, not only all the physical sciences, but these with physiology, a far vaster influence upon biology is due.

But the most important of all influences on the organic sciences has come from geology. The discovery that our earth dates from an almost incalculably remote antiquity, together with the establishment as the fundamental axiom

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of the science that the present is the key to the past, and whence is drawn the inference, that the present phenomena of the earth's crust do not in large degree result from catastrophe and deluge, still less from special creation, but are in great measure the product of a slow and progressive evolution (by natural causes still in operation) from a widely different previously existing state of things, furnish the evolutionist with the most primary of his data. To the establishment of this new theory of geologic evolution, revolutionary yet uniformitarian, of which the theory of organic evolution is but the complement and corollary, it is interesting to note that after Hutton and Lyell, perhaps no more important service has been rendered by any geological works than by the series (*Geological Observations*, 1844; *Coral Reefs*, 1842; *Earthworms*, 1881; and the essay on the *Imperfection of the Geological Record*, summarized below), which we owe to Darwin.

Nor is it only the preliminary sciences which have influenced biologists, and have aided them in their inquiries as to the origin of their set of phenomena. The human and social sciences—psychology and philology, anthropology and history, have all contributed their ætiological example and results, so that it might almost be debated whether the biological evolutionist has not been more indebted to all the other sciences for his theory, than they to him for theirs.

Origin of the Idea of Evolution in Biology.—No doubt largely influenced by such as existed of the scientific conceptions outlined above, as well as by the Cartesian doctrine, that the universe is a mechanism, and is therefore to be explained on mechanical principles, the evolutionary hypothesis made its first distinct appearance in the work of De Maillet (*Telliamed*, written 1735, published 1758), and was expounded in more or less varying form by more than 30 writers before Darwin, among whom the most notable were Erasmus Darwin, Goethe, Lamarck, and Geoffroy St. Hilaire. Their hypotheses, although based on masses of biological evidence drawn from homologies and rudimentary organs, from classification and development, from geological and geographical distribution, and so on, never succeeded in gaining general acceptance among naturalists—a failure which has been attributed to established prejudice, aided as it was by the authority of Cuvier. Yet, while rendering it extremely probable that modification had occurred, they all came short, as Darwin has pointed out, in one most important particular, that of showing *how* the modification of one species from another could take place, ‘so as to acquire that perfection of structure and co-adaptation which justly excites our admiration;’ since the hypotheses of the potency of external conditions, of habit, or of the volition of the organism itself, alike successively broke down.

Darwin, in his turn, struck especially by the distributional phenomena he witnessed during his ‘Naturalists’ Voyage,’ devoted himself to the solution of the problem of the origin of species, specially concentrating his efforts

upon this weakest point of the preceding theories. After 21 years' continuous work, he was compelled, on receiving a paper by Mr. A. R. Wallace (then exploring the Malay Archipelago), in which views identical with his own were expressed, to proceed to the publication of his results, first in brief outline (*Journ. Linn. Soc.*, 1858), and the following year in that fuller abstract, *The Origin of Species by means of Natural Selection*, which may now be briefly summarized, so far as further compression of such 'intellectual pemmican' is possible. For details and explanations, see the original work (sixth ed. 1875).

Outline of 'Origin of Species.'—In order to gain insight into the means of modification, Darwin commences with a study of the variation of plants and animals under domestication (later expanded into a separate work; second ed. 1876).

Variation and Heredity.—While all plants and animals exhibit some degree of variation, this is greatest among domesticated species, owing to their new and less uniform conditions of life. These may act directly on the whole organization, or on separate parts, and the variation, though rarely, is sometimes definite, as when size increases with quantity of food, or color changes with its quality; or the conditions may act indirectly by influencing the reproductive system, which is peculiarly sensitive. Changed habits produce an inherited effect, e.g., the leg-bones of the common duck weigh proportionately more, and its wing-bones less, than in the wild variety, because it flies less and walks more. So, too, tame mammals acquire drooping ears, since these are rarely pricked in alarm. One variation is usually correlated with others, thus long-beaked pigeons have small feet, and conversely. All variations tend to be inherited. The popular belief that domestic races revert to the aboriginal stock is unsupported by facts.

Save that domestic varieties are less uniform than wild species, often differ more widely in some single part, and are fertile when crossed, there is no well-marked distinction between these and so-called true species. If, therefore, such varieties as of the dog can be shown to be descended from a single wild species, there necessarily arises great doubt as to immutability of closely allied natural species, such as the foxes. While the many breeds of dog appear to have arisen from several wild species, and those of cattle also from two or three, fowls, ducks, rabbits, etc., all certainly arise from a single ancestral species. The case of pigeons is of peculiar importance, since pouter, carrier, fantail, and tumbler differ so thoroughly, externally and internally, that any ornithologist would be compelled to assign to them, not merely specific but generic distinctness, if he had discovered them in the wild state. There is at least as much difficulty in believing that such breeds can have proceeded from a common ancestor, as in the case of any group of birds in nature; and every breeder of these and other domestic animals has been firmly convinced of their descent from distinct species.

Yet these are proved to arise from the common rock-dove (*Columba livia*) (see COLUMBIDÆ), and thus those who admit the unity of domestic races should be cautious in deriding the unity of wild ones.

Domestic races all exhibit adaptations to man's use or fancy, rather than their own good. The key to this is man's power of selection; nature gives successive variations, man accumulates them, so making for himself useful breeds, and often (e.g., sheep, cattle, roses, dahlias) profoundly modifying their character even in a single lifetime; so that in all characters to which he attends, they may differ more than the distinct species of the same genera. Again, more even than conscious, that unconscious selection which results from every one trying to possess and breed the best animals, is important. Two flocks of Leicester sheep, equally kept pure, appeared of quite different varieties after 50 years. Such slowly accumulated change explains why we know so little of the origin of domestic races; and its absence in regions inhabited by uncivilized man, explains why these yield no plants worth immediate culture. Human selection is facilitated by the keeping of large numbers, since variations will be more frequent, and by preventing crosses; some species vary, however, more than others.

Variation under Nature.—All like organisms in nature present individual differences, more considerable than is usually supposed; no two blades of grass are alike, and far more marked differences often occur, several castes or varieties sometimes existing in the same sex. Between these castes, and much more frequently between forms which systematic botanists and zoologists rank as true species, perfectly intermediate forms may occur. No agreement about the definition of species (the amount of difference necessary to give any two forms specific rank) has ever been come to; thus, in the British flora alone, there are nearly two hundred disputed forms, and individual opinion is in these cases the only criterion. As long as a genus is imperfectly known, and its species founded upon few specimens, they appear clearly limited. But with better knowledge, intermediate forms flow in, and doubts as to specific limits augment. The terms species and variety are thus arbitrarily given to sets of individuals more or less closely resembling each other. See VARIETY: SPECIES: GENUS.

Individual differences are thus of the highest importance, as the first steps toward the slightest varieties worth recording, these toward more distinct and permanent varieties, and these again toward sub-species, and these to species; though extinction may often stop the progress.

The species which present most varieties are those which have the greatest geographical range, or the widest diffusion in their own territory, or possess the greatest number of individuals; and in the larger genera of each country the species vary more frequently than in the smaller genera; and in many respects the species of large genera present a strong analogy with varieties, which analogy is alone intelligible on the view that they once existed as such.

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Struggle for Existence.—All organic beings tend to increase with extreme rapidity, so that if not destroyed, the earth would soon be covered by the progeny of a single pair. This is evidenced not merely by calculation, but by actual observation of the extraordinary rapidity with which plants and animals have spread, when introduced into new and favorable circumstances.

Since organisms then are reproducing themselves so rapidly, and since all their offspring cannot escape their enemies, get food, and live, much less leave progeny in turn,—since, in other words, the doctrine of Malthus applies to animals and plants with manifold force (for these can have no artificial increase of food, and no prudential restraints on marriage,—there must in every case be a *struggle for existence*, either of one individual with another of the same species, or with the individuals of distinct species, or with the physical conditions of life; often, indeed, with all these at once, and that more or less intensely through the whole of life.

The checks to increase are most obscure, and vary in each case. In all cases the amount of food, of course, gives the extreme limit. The youngest organisms generally suffer most; seedlings, for instance, are destroyed in vast numbers, thus, even in a patch of ground purposely dug and cleared, where no choking from other plants could take place, 295 out of 357 seedling-weeds were destroyed, chiefly by slugs and insects. So, too, the stock of game on an estate depends chiefly on the destruction of vermin. Climate also is highly important, and periodic seasons of extreme cold and drought seem the most effective of all checks—a severe winter sometimes destroying four-fifths or more of the birds of a locality. Epidemics, too, may occur, especially where numbers have inordinately increased. On the other hand, a large stock of individuals of the same species is essential for its preservation.

The complex relations of all animals and plants to each other require illustration. The plantation of part of a heath with Scotch fir leads to the profound alteration of its flora and fauna, while the growth of these firs again is wholly dependent upon the exclusion of cattle. Many flowers depend for fertilization on the visit of a special insect, e.g., red clover on humble-bees. But bees are destroyed by field-mice, and consequently protected by cats; hence, not only no bees, no clover, but also the more cats, the more clover! The struggle for life is most severe between individuals and varieties of the same species, and between the species of the same genus, since these tend to fill the same place in the economy of nature; hence we see the brown rat supplanting the black, and the hive-bee supplanting its Australian congener. The structure of every being is related to that of the others with which it competes, or from which it seeks to escape, or on which it preys; as is alike evident in the structure of the tiger, and of the parasite which clings to his hair. So, too, the albumen of a seed is useful chiefly in favoring the young plant's struggle for light and air against the adult plants around.

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Natural Selection.—But how will the struggle for existence act with regard to variation? Can the principle of selection, so potent in the hands of man, apply under nature? Most efficiently so. Let us bear in mind (1) the constant occurrence of variation; (2) the infinite complexity of the relations in which organisms stand to each other, and to the physical conditions of life; and consequently (3) what infinitely varied diversities of structure might be useful to each being under changing conditions of life. Can it then be thought improbable (whatever may be said as to its actual occurrence) seeing that variations useful to man have undoubtedly occurred, that other variations useful in some way to each being in the great and complex battle of life, should also occur in the course of many generations? And if such do occur, can we doubt (remembering that many more individuals are born than can possibly survive) that individuals having any advantage, however slight, would have the best chance of surviving and of procreating their kind, while injurious variations would be destroyed? This preservation of favorable variations, and destruction of injurious ones, is termed Natural Selection, or, less figuratively, the Survival of the Fittest.

Taking the case of a country undergoing a change of climate, the proportional numbers of its inhabitants would change, some species probably also becoming extinct—and these changes would in many ways affect the survivors. A further disturbance would come from the immigration of new forms; or, if that were prevented, we should have places in the economy of nature which might be better filled up. Any slight favorable modification of the old species would tend to be preserved, and we have seen that changed conditions increase variability.

Nor are such changes, often though they have occurred, necessary in order to leave places for natural selection to fill by improving some of the varying forms. No country can be named where the native inhabitants are perfectly adapted to their conditions and competitors, for as some foreigners have taken firm possession in every country, we may safely conclude that the natives might have been modified with advantage to resist them.

And when human selection has produced such great results, why may not natural? The former acts only for man's own good, on mere external and visible characters, and irregularly throughout a short period; the latter acts for the good of the being itself, on the whole machinery of its life, and incessantly throughout almost infinite time. (It is important here to remember that the objection to this agency on the ground of its presumed insignificance is identical with that so long and unsuccessfully employed against Lyell's explanation of the origin of the physical features of the globe by summing up the existing natural changes.)

Natural selection thus leads to the improvement of each creature in relation to its organic and inorganic conditions of life, and consequently in most cases to what must be regarded as an advance in organization. Nevertheless, low

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and simple forms will long endure, if well fitted for their simple conditions.

Natural selection may modify the egg, seed, or young, as easily as the adult, and these modifications may effect through correlation the structure of the latter, and conversely.

Besides Natural, we have to consider Sexual Selection, i.e., not merely do individuals struggle for existence, but the males struggle for the females, and the most vigorous thus tend to leave most progeny. Special weapons, offensive and defensive, like the cock's spurs, the stag's horns, or the lion's mane, are used in this struggle, and the most useful variations are thus those which are transmitted. Again, as man can in a short time give beauty to his domestic birds, so there is no good reason to doubt that female birds in thousands of generations, by selecting, as they are observed to do, the most melodious or beautiful males, might produce a marked effect, and many sexual differences are thus explained.

The theory of natural selection may be applied in special cases, e.g., (1) to explain the evolution of swift greyhound-like varieties of wolves; (2) the origin and the excretion of nectar in flowers, its use to insects, and their action in transferring pollen from flower to flower, and its advantage in intercrossing; and the resultant modification and adaptation of flower and insect to each other by the preservation of advantageous variations.

The circumstances favorable to the production of new forms through natural selection are also reviewed. These are chiefly, great variability, large numbers of individuals; the complex effects of intercrossing; isolation in small areas, yet also extension over continental ones, especially if these oscillate in level; and considerable lapse of time. Rare species are shown to be in process of extinction. The *divergence of character* in domestic breeds, largely due to the fact that 'fanciers do not, and will not, admire a medium standard, but like extremes,' applies throughout nature, from the circumstance that the more diversified the descendants from any one species become in structure, constitution, and habits, by so much will they be better enabled to seize on many and widely diversified places in nature, and so to increase in numbers. Thus, taking a carnivorous animal, which has reached the average numbers which its territory will support, it is evident that it can succeed in increasing only by its varying descendants seizing places hitherto occupied by other animals, thus changing their food or habitat. This must hold equally of all species, and is separately demonstrated for plants. The greatest amount of life can be supported by great diversification of structure; hence, in small areas where competition is severe, the inhabitants are extremely varied.

The probable effects of the action of Natural Selection, through divergence of character and extinction, on the descendants of a common ancestor are then discussed in detail with an illustrative diagram. This takes the form of a genealogical tree—'the great tree of life, which fills with

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its dead and broken branches the crust of the earth, and covers the surface with its ever-branching and beautiful ramifications.'

Laws of Variation.—The following is a very brief summary. Of the cause of most variations we are still ignorant, but the same laws appear to have acted in producing the lesser differences between varieties of the same species, and the greater differences between species of the same genus. Changed conditions sometimes induce definite and permanent effects: habit, use, and disuse are potent in their effects. Specific characters are more variable than generic, and varietal than either. Rudimentary organs and secondary sexual characters are highly variable. Species closely related, of similar constitution and similarly influenced, present analogous variations, and frequently exhibit characters which can be explained only as reversions to those of their ancient progenitors; e.g., zebra-like stripes on horses, or wood-pigeon's markings on fantails, tumblers, etc.

Difficulties and Objections.—In four chapters all the miscellaneous objections raised against the theory between 1859, and the appearance of the latest edition, are successively stated, weighed, discussed, and met as well as the more serious difficulties pointed out by Darwin himself. These latter are, (1) the definiteness of species and the rarity of transitional forms; (2) the enormous degree of modification in habits and structure which the theory assumes, and the power of Natural Selection to produce on the one hand an organ of such trifling importance as the tail of a giraffe, and on the other, an organ so wonderful as the eye; (3) the acquirement and modification by Natural Selection of such marvellous instincts as those of the bee; (4) the sterility of crossed species, and the fertility of crossed varieties. For these discussions, see the original work.

Imperfection of the Geological Record.—On the doctrine of the extermination of an enormous number of intermediate varieties, the links between existing and remote ancestral forms—why is not every geological formation charged with such links? Why does not every collection of fossils afford plain evidence of the gradation and mutation of the forms of life? Geology, assuredly, does not reveal any such finely graduated organic chain, and this is one of the most obvious and plausible objections to the theory. The explanation offered lies in the extreme—the almost incredible—imperfection of the geological record. Only a small portion of the globe has been geologically explored with care, only certain classes of beings have been fossilized, and the number, both of specimens and species yet discovered, is absolutely as nothing compared with the number which must have passed away during even a single formation. The Malay Archipelago is about the size of Europe, and, therefore, equals in area the formations best known to us; its present condition represents that of Europe, while its strata were being deposited; its fauna and flora are among the richest on the globe, yet, even if all the

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species were to be collected which ever lived there, how imperfectly would they represent the natural history of the world ! Only few of these are preserved at all, and most of these in an imperfect manner ; moreover, subsidence being almost necessary for the accumulation of rich deposits, great intervals of time must have elapsed between successive formations, so that, during periods of elevation, when variation would be most frequent, the record is least perfect. Moreover, single formations have not been continuously deposited ; the duration of specific forms probably exceeds that of each formation ; migrations have largely taken place ; widely ranging species are most variable, and oftenest give rise to new species ; varieties have been at first local ; and finally, it is probable that periods of modification are short as compared with periods of permanence. Hence we cannot find interminable varieties, and any linking variety between two forms is, of course, ranked as a distinct species, for the whole chain cannot be permanently restored. Thus the geological record is a history of the world indeed, but one imperfectly kept, and written in a changing dialect ; of this history we possess the last volume only, relating to two or three countries. Of this volume, only here and there a short chapter has been preserved, and of each page only here and there a few lines. The form which this explanation necessarily takes has led to the rejoinder that it amounts to the plain concession of a lack of evidence from the geological record. Against this rejoinder, however, statements are advanced whose drift is indicated in the paragraph [in brackets] below.

Geological Succession of Organic Beings (Distribution in Time).—The preceding difficulties excepted, the facts of paleontology agree admirably with the theory. New species come in slowly and successively ; they change in different rates and degrees ; old forms pass through rarity to extinction, and never reappear ; dominant forms spread and vary, their descendants displacing the inferior groups, so that after long intervals of time the productions of the world appear to have changed simultaneously. The most ancient forms differ most widely from those now living, yet frequently present characters intermediate between groups now widely divergent, and they resemble to a remarkable extent the embryos of the more recent and more highly specialized animals belonging to the same classes. These laws, and above all, the important law of the succession of the same types within the same areas during the later geological periods, and most notably between the Tertiary period and the present time (e.g., fossil and recent marsupials in Australia, and edentates in South America), cease to be mysterious, and become at once intelligible on the principle of inheritance, and on that alone.

[Since the publication of the *Origin of Species* (1859), paleontological research has been constantly furnishing verification of these views. The imperfection of the geological record was so far from over-estimated, that Huxley (*Science and Culture*, 1880), in comparing our present knowledge of the mammalian Tertiary fauna with that of

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1859, states that the results of the investigations of Gaudry, Marsh, and Filhol, are 'as if zoologists were to become acquainted with a country hitherto unknown, as rich in novel forms of life as Brazil or s. Africa once were to Europeans.' Gaudry found the intermediate stages between civets and hyenas; Filhol disinterred still more remote ancestral carnivores; while Marsh obtained a complete series of forms intermediate between that, in some respects, most anomalous of mammals, the horse, and the simplest five-toed ungulates (see MAMMALIA). Again, the belief of Darwin that the distinctness of birds from all other vertebrates was to be accounted for by the extinction of a long line of progenitors connecting them with reptiles, was in 1859 a mere assumption; but in 1862, the long-tailed and intensely reptilian bird *Archæopteryx* (q.v.) was discovered; and in 1875 the researches of Marsh brought to light certain cretaceous birds, one (*Hesperornis*) with teeth set in a groove, the other (*Ichthyornis*) with teeth in sockets, and with bi-concave vertebræ. Besides these reptilian birds, bird-like reptiles have similarly been forthcoming, and the hypothesis of Darwin (it is claimed) is thus admirably verified. Considerable light, too, has been thrown on the pedigree of crocodiles; ammonites, trilobites, and other invertebrates have been arranged in series, while important collateral evidence is furnished by 'persistent types' such as *Ceratodus*, *Beryx*, *Nautilus*, *Lingula*, etc., which have survived—we must assume by ordinary generation—almost completely unchanged since remote geological periods. On such grounds, Huxley proceeds to claim (*op. cit.*) that 'on the evidence of paleontology, the evolution of many existing forms of animal life from their predecessors is no longer an hypothesis, but a historical fact; it is only the nature of the physiological factors which is still open to discussion.]

Geographical Distribution.—Neither the similarity nor the dissimilarity of the inhabitants of various regions, whether of land or sea, can be accounted for by differences in climate, or other physical conditions, but are related, in the most striking degree, to the absence or presence of barriers to migration between those regions. Within the same area there exists the most marked affinity among the species, though these differ from point to point. Species appear to have arisen in separate definite centres, the few apparent exceptions being accounted for by migration and dispersal, followed by climatal and geographical changes. But for a summary of our knowledge of the existing mode of distribution of organic life, and of the way in which that distribution has been effected, as well as of the very important bearing of these facts upon the theory of evolution, which they may be said indeed, more than any other class of facts, to have suggested, see GEOGRAPHICAL DISTRIBUTION.

Morphological Arguments.—The physiological and distributional lines of argument being summarized, those furnished by morphology, though not less numerous and highly important, can be only briefly outlined. These are mainly four, and are derived from (a) Classification, (b) Homologies, (c) Embryology, (d) Rudimentary Organs.

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(a) *Classification*.—Naturalists arrange the species, genera, and families in each class, on what is called the Natural System. But what is meant by this system? Is it, after all, merely an artificial scheme for enunciating general propositions, and of placing together the forms most like each other—or does it, as many believe, reveal the plan of creation? The grand fact of classification is, that organic beings, throughout all time, are arranged in groups subordinated under other groups, individuals under varieties, and these again under species; species under genera; those under sub-families, families, and orders, and all under a few grand classes. The nature of all these relationships,—the rules followed and the difficulties met by naturalists in their classifications,—the high value set upon constant and prevalent structures, whether these be of great or little use, or, as with rudimentary organs, of no use at all; the wide opposition in value between such misleading resemblances of adaptation, as for instance the fish-like form of whales, and such characters of true affinity as are afforded by the structure of their circulatory or respiratory system—all these receive a simple and natural explanation on the view of the common descent of allied forms with modification through variation and natural selection; while it is to be noted that no other explanation has ever even been attempted. The element of descent, too, is already used in linking all the sexes, ages, forms, and varieties of the same species, widely though these (e.g., *cirripedes*, etc.) may differ from each other in structure: and we have only to extend it to understand the meaning and origin of the Natural System.

(b) *Homology*.—The members of the same class, independently of their habits of life, resemble each other in their general plan of organization; thus, the hand of man, the digging-paw of the mole, the leg of the horse, the paddle of the porpoise, and the wing of the bat, all are constructed on the same pattern, bone corresponding to bone; and similarly with the hind limb. Again, the mouths of insects are of innumerable varieties of form and use—witness the long spiral trunk of a moth, and the great jaws of a beetle—yet these are formed by modifications of an upper lip, mandibles, and two pairs of maxillæ. And so it is with the limbs of crustaceans, or the flowers of plants; in fact, with the organs of every class of beings.

This *conformity to type* is ‘powerfully suggestive of true relationship, of inheritance from a common ancestor;’ it admits, in short, as no one indeed denies, of a simple explanation in terms of the evolutionary theory, and thus strengthens that theory not a little. It has been attempted to explain this unity of plan in two other ways—first, by assuming it due to utility, which is negatived by the facts, since organs of identical use (e.g., the wings of a bird and those of a butterfly) very frequently do not conform to the same type at all; secondly, by attributing it to a unity of design, which unity, however, (a) instead of being always maintained as on the theory it should be, is not unfrequently quite lost in highly specialized forms; and which,

DARWINIAN THEORY.

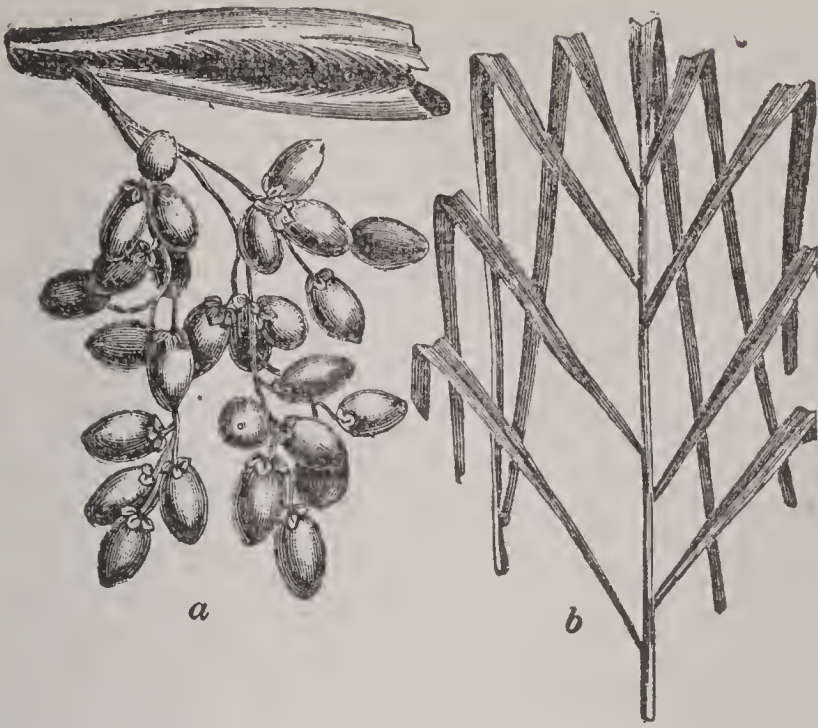
even if it always existed, (b) would directly suggest the unity of descent, the design thus serving only to mislead the anatomist.

Serial Homology, too, has to be accounted for—that unity of type which is found on comparing the different parts and organs in the same individual, so that the wonderfully complex and varied jaws and legs of a lobster, or the widely different leaves—sepals, petals, stamens, and pistils of a flower, are all found to be modifications, respectively of a simple limb, and of a simple leaf organ. Not only are such metamorphoses apparent on comparison, but they can be actually observed to occur during the development of each individual; is then the term metamorphosis to have a mere metaphorical meaning when applied to the species, or has it not actually arisen in past time, through the natural selection and transmission of advantageous variations?

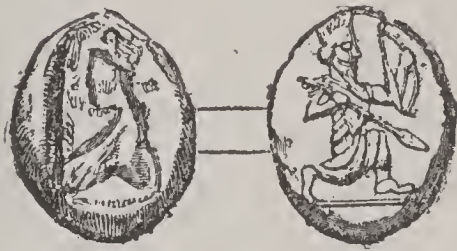
(c) *Development*.—It has been already indicated that the serially homologous parts in the same individual are alike during an early embryonic period, as are also the homologous organs in animals which, like bat, horse, and porpoise, may be widely differentiated in adult life. So closely, too, do the embryos of the most distinct species belonging to the same class resemble each other, that even Von Baer was unable to distinguish whether two unlabelled specimens were lizards, birds, or mammals. This law of embryonic resemblance holds very widely, e.g., young crustaceans. The embryo often retains within the egg or womb structures which are of no service to it, either at that or at a later period of life, like the transitory gill-arches of birds or mammals; while, on the other hand, larvæ which, like those of insects, have to provide for their own wants, undergo complete secondary adaptation to the surrounding conditions. The process of development goes from the general to the special, thus there is generally an advance in organization. In peculiar conditions, however, degeneration may occur. All these facts are readily explained on the principle of successive slight variations not necessarily or generally supervening very early in life, and being inherited at a corresponding period; and it is thus in the highest degree probable that most embryonic stages show us more or less completely the progenitor of the group in its adult state; and embryology thus rises greatly in interest (see DEVELOPMENT OF THE EMBRYO).

(d) *Rudimentary Organs*.—Rudimentary, atrophied, and aborted organs, bearing the plain stamp of inutility, and so extremely common that it is impossible to name a higher animal in which none occurs. The mammæ of male mammals, the hindlegs of boas, the wings of many birds, or the teeth of fetal whales, and the upper incisors of unborn calves, are familiar instances. Such organs are intelligible on the evolutionary theory, and have not been explained on any other.

Recapitulation and conclusion.—After tersely summing up the preceding mass of evidence, Darwin concludes by pointing out (a) that the theory of evolution by natural selection is no more inimical to religion than that of gravi-



Date Palm: *a*, Bunch of dates dependent from their spathe; *b*, Portion of leaf.



Golden Daric, from British Museum.



Fruit of Date Palm.



Datura.—Thorn-apple (*Datura stramonium*): 1, Root; 2, Seed-vessel cut across.

DARWIN MOUNT—DASHKOV.

tation, to which the same objection was strongly raised; (b) its revolutionary influence on the study of all departments of natural history; (c) on psychology (q. v.); (d) on the origin of man and his history (see DESCENT OF MAN); (e) on our theories of future progress.

Envoy.—‘It is interesting to contemplate a tangled bark clothed with many plants of many kinds, with birds singing on the bushes, with various insects flitting about, and with worms crawling through the damp earth, and to reflect that these elaborately constructed forms, so different from each other, and dependent on each other in so complex a manner, have all been produced by laws acting around us. These laws, taken in the largest sense, being growth with reproduction; inheritance, which is almost implied by reproduction; variability from the indirect and direct action of the conditions of life, and from use and disuse; a ratio of increase so high as to lead to a struggle for life, and as a consequence to natural selection, entailing divergence of character and the extinction of less improved forms. Thus, from the war of nature, from famine and death, the most exalted object which we are capable of conceiving, namely, the production of the higher animals, directly follows. There is grandeur in this view of life, with its several powers, having been originally, breathed by the Creator into a few forms, or into one; and that, while this planet has gone cycling on according to the fixed law of gravity, from so simple a beginning endless forms most beautiful and most wonderful have been, and are being, evolved.’

DARWIN MOUNT: elevation of nearly 7,000 ft. on the s. w. side of King Charles' South Land, Tierra del Fuego.

DARWIN SOUND, is the portion of the sea near the Mount.

DASCILLIDÆ, n. plu. *dās-sil lī-dē* [Gr. *daskillos*, the name of a fish]: family of pentamerous beetles; chief genera: *Dascillus*, *Cyphon*, and *Helodes*. **DASCILLUS**, -lūs, is the typical genus.

DASH, v. *dāsh* [imitation of the sound of a blow, the beating of the waves upon the shore, etc.: Bav. *dossen*, to sound as heavy rain, rushing brooks, etc.: Dan. *daske*, to slap: Sw. *daska*, to drub]: to strike with suddenness or violence; to throw water suddenly; to mix or adulterate; to blot out; to scatter; to rush or strike with suddenness; to break or rush through with violence; to overwhelm; to destroy, as hopes; to confound: N. a striking together of two bodies; collision; a slight addition; a rushing or onset; a sudden stroke, flourish, or parade; in *writing* or *printing*, a mark thus (—); in *music*, thus (l), over a note. **DASH'ING**, imp.: **ADJ.** bold; showy; spirited; adorned with finery. **DASHED**, pp. *dāsh't*. **DASH-BOARD**, a board on the forepart of a vehicle to prevent water, mud, or snow being thrown upon the persons in it by the heels of the horses; a splash-board. **TO CUT A DASH:** see **CUT 2**.

DASHKOV, *dāsh'kof*, Princess **EKATERINA ROMANOVA**: 1744–1810; daughter of Count Vorontsov. From her earliest youth. she received a careful training. She was an inti-

DASS—DASTARD.

mate friend of the Empress Catharine II., and one of the heads of the conspiracy formed against Peter III., the success of which secured the throne to Catharine. Soon afterward quarrelling with Catharine, she obtained permission to travel, and visited Germany, England, France, and Italy, where she made the acquaintance of many learned men (among others, Garrick, Dr. Blair, and Dr. Robertson). The empress and she were reconciled to each other, and the princess was appointed director of the Acad. of Arts and sciences; and in 1783, pres. of the Russian Acad., established at her own suggestion in imitation of the French *Academie*. On the death of Catharine, 1796, she was deprived of her offices, and ordered by Paul III. to retire to her estates at Novgorod. She died at Moscow. Besides several comedies and occasional magazine-papers, the Princess D. was mainly instrumental in inducing the Russian Acad. to draw up a dictionary of the Russian language, which was completed in 12 years. The princess herself assigned the various letters of the alphabet to different scholars, took three herself, and superintended the execution of the whole. Her very interesting memoirs were published by Mrs. W. Bradford (two vols. Lond. 1840).

DASS, *dås*, PETTER: 1646–1708; b. Isle of Nord Herö, Norway: poet. He studied in Bergen Univ., was ordained a Lutheran priest 1672, was under-chaplain at Nesne till 1681, and resident chaplain till 1689, and was then given the living of Alstahoug, the most important in the n. of Norway. In 1700 he desired to resign his living to his son Anders D., but was not permitted; in 1704, however, the son became his father's chaplain, and Petter found more leisure for poetical compositions. His writings had an extensive circulation in ms. form, and few of them were printed in his life-time. They abounded in queer turns of thought, and fine homely fancies. His best known poem, a description of the Nordland province, its attractions and business interests, bears the title of *The Trumpet of Nordland*, is full of humor, fancy, and erudition, and was published 1739. His *Norwegian Song of the Valley* was published 1696, and *Spiritual Pastimes* 1711. He is remembered as the father of Norwegian poetry.

DASTARD, n. *däs'térd* [Icel. *dust*, a blow; *dæstr*, exhausted, breathless: *ard*, is the Dut. *aerd*, inborn or native quality; also Ger. *art*, nature, quality—and *dast*, the radical part, may be the figurative application of *dash* or *daze*, to stun, to confound: F. *ard*; Goth. *hardus*; Ger. *hart*, hard: *ard*, in F. denotes intensity as a postfix]: one who meanly shrinks from danger; a coward; a poltroon: ADJ. cowardly. DAS'TARDLY, ad. *-lī*, cowardly; mean; timorous. DAS'TARDIZE, v. *-dīz*, to make cowardly. DAS'TARDIZING, imp. DAS'TARDIZED, pp. *-dīzd*. DAS'TARDLINESS, n. DAS'TARDNESS, n. mean fear; cowardliness. DAS'TARDY, n. *-tēr dī*, base timidity; cowardliness.

DASYA—DASYURĒ.

DASYA, *dās'ī-a*: genus of the red algæ or sea-weed, belonging to the *Thallogens* class and *Rhodomelaceæ* order, cellular in structure, and esteemed among the most beautiful of cryptogamous plants. The spores are red and pear-shaped. Nearly a dozen species of *D.* are found in the waters of the United States, and seven in the British Islands.

DASYANTHOS, n. *dās-ī-ăn'thōs* [Gr. *dasus*, thick, hairy; *anthos*, a flower]: genus of plants belonging to the order *Ericaceæ*; natives of the Cape of Good Hope.

DASYCLADEÆ, *dās-ī-klā'dē-ē* [Gr. *dasus*, shaggy; *klo-dos*, a young shoot or branch of a tree]: tribe of algæ arranged by Kützing under his sub-order *Caloblasteæ*. **DASYCLA'DUS**, n. *-dās*, genus of algæ, typical of Kützing's tribe *Dasycladeæ*.

DASYGASTREÆ, *dās-ī-gās'trē-ē* [Gr. *dasus*, shaggy; *gastēr*, *gastros*, belly]: little group of bees instituted by Cuvier, in which the abdomen of the female is generally furnished with a silky brush. It ranks under the *Apides*, is distinguished from the *Andrænides*, and includes the genera *Megachile*, *Osmia*, etc.

DASYMETER, n. *dās-īm'ēt-ēr* [Gr. *dasus*, thick, dense; *metron*, a measure]: instrument for weighing gases.

DASYORNIS, n. *dās-ī-or'nīs* [Gr. *dasus*, thick; *ornīs*, a bird]: genus of birds belonging to the *Merulidæ*, or thrush family. They are natives of s. Australia.

DASYPELTIDÆ, n. plu. *dās-ī-pēl'tī-dē* [Gr. *dasus*, thick; *peltē*, a shield; L. suf. *-idæ*]: family of serpents, of which dasypeltis is the type. **DASYPEL'TIS**, *-tis*, genus of serpents destitute of teeth.

DASYPODA, n. *dās-īp'od-a* [Gr. *dasus*, thick; *pous*, a foot]: genus of bees, family *Anthophila*.

DASYPUS, n. *dās'ī-pūs* [Gr. *dasus*, rough, hairy; *pous*, a foot]: the zoological term for a genus or armadillos, in allusion to the soles of their feet being covered with strong hairs. **DASYPODIDÆ**, *dās-īp-ōd-ī'dē*, small family of dentate animals, including the armadillos: see **ARMADILLO**.

DASYSTES, n. *dās-īs'tēz* [Gr., hairiness]: in *entom.*, genus of coleoptera belonging to the family *Cleridæ*; in *physiol.*, hairiness; an unusual or extraordinary growth of hair on any part not usually covered by it.

DASYURĒ, n. *dās'ī-ūr* [Gr. *dasus*, hairy; *oura* a tail], (*Dasyu'rus*): a genus of carnivorous marsupial quadrupeds, nearly allied to the opossums; but differing from them in having only eight incisors in the upper, and six in the lower jaw, and only twelve molars in each jaw; also in the tail being everywhere covered with long hairs, and not prehensile; in the hinder thumb being reduced to a mere tubercle, or lacking; and in the important anatomical character of the want of a cœcum. All the species are Australian. The **URSINE D.**, or ursine opossum (*D. ursinus*), was very abundant in the north of Van Diemen's Land, when first colonized, and very destructive to sheep and poultry. It is about the size of a badger, of a stout form, with a tail

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half as long as the body; the body and tail covered with coarse black hair, marked with white bands. It burrows in the ground. It is very fierce and untamable, and is called sometimes the native Devil. The Spotted-tailed D. (*D. macrourus*) is about as large as a cat, has a tail fully as long as the body, is of a rich brown color with white spots, and as well as a rather smaller species (*D.*



Ursine Dasyure (*D. ursinus*).

Margii), the wild cat of the colonists, is very destructive to poultry in Van Diemen's Land.

DASYURINÆ, *dās-ī-ūr-ī'nē*: sub-family of marsupials, of which the genus *Dasyurus* is the type.

DATA, n. plu. *dā'tă* [mid. L. *data*, a date—from L. *data*, things given—from *datum*, a thing given, the time and place of writing]: things given, admitted, or known, by which to find things unknown; known or admitted facts or truths. DA'TUM, n. *-tŭm*, something given as a standard. DATUM-LINE, the base-line from which surface levels and heights are reckoned as a fixed standard. DATARIA, n. *dā-tā'rĭ-ă*, the papal chancery at Rome from which all bulls are dated and issued. DATARY, n. *dā'ter-ĭ*, the officer of this chancery, sometimes called a chancellor: he is assisted by a *pro* and *sub* datary. DATE, n. *dāt*, the day, month, and year in which anything was given or executed; the time of any event or transaction; period; age; era; epoch: V. to write, fix, or note the time of any event, etc.; to reckon; to begin. DA'TING, imp. DA'TED, pp. DATE'LESS, a. without a date.

DATE.

DATE: time, period: see under DATA.

DATE, n. *dāt* [F. *datte*; OF. *date*, the date—from L. *dac'tylus*, a finger—from the form of the fruit]: the fruit of the date-palm tree: see DATE PALM.

DATE: the precise time at which a document was written, or an event happened. The importance of accurately ascertaining the date of an event or writing is very obvious, but the difficulty sometimes involved is not so apparent. It might be thought that, at least in modern times, where the day of the month and year are authoritatively set down, there can be no room for any further question; but it is not so. If, for instance, we refer to a newspaper of the reign of Queen Anne, we shall see the *Amsterdam Gazette* of Feb. 22 translated in the *London Gazette* of Feb. 13, and abridged in the *Edinburgh Courant* of Feb. 19, all of the same year, 1705. And this is but one of several seeming inconsistencies or contradictions of the same sort.

In the first place, the difference of the two *styles*, old and new, by which dates are reckoned may cause a discrepancy of 10, 11, or 12 days, according to the century to which the date belongs. Until 1582, there was but one style or calendar throughout Europe; but in that year, Pope Gregory XIII. introduced the 'new style' or 'Gregorian calendar,' which at once corrected the long accumulated errors of the old method of computing time, by declaring 1582. Oct. 5 to be Oct. 15, or, in other words, by striking 10 days out of the almanac of that year. The new style was adopted generally in Rom. Cath. countries. Most Protestant countries, on the other hand, continued for a longer or shorter period to use the 'old style,' or 'Julian calendar.' It is necessary, therefore, in dealing critically with dates after 1582, to ascertain what 'style' was in use at the time and the place in question. This, in not a few cases, may call for some inquiry; but generally, the following table will serve to show when the chief states of Europe adopted the new style:

Year.	Country.
1582.	Great part of Italy, France, Lorraine, Portugal, Spain, Holland, and the greater part of the Netherlands.
1584.	The Roman Catholic parts of Germany and of Switzerland.
1586.	Poland.
1587.	Hungary.
1682.	The city of Strasburg.
1700.	The Protestant parts of Germany and of Switzerland, Guelders, Zutphen, Utrecht, Friesland, Groningen, and Overysel.
1749 or 1751	} Tuscany.
1752.	
1752.	Great Britain and Ireland: British American colonies, soon thereafter.
1753.	Sweden.

In Russia and Greece, the old style is still followed, and it obtains generally in the East. Thus, what was 1879, Jan. 12, at Paris, London, and New York, was 1878, Dec. 31, at Athens and St. Petersburg.

But difference of old and new *style* is not the only cause of perplexity in dates. Countries using the same style, and therefore agreeing as to the day of the *month*, may

differ as to the *year* to which they refer an event. Thus, the beheading of King Charles I. was reckoned, both in England and in Scotland, to have taken place Jan. 30; but while England held the year to be 1648, Scotland held it to be 1649. The cause of this discrepancy was the difference which obtained as to the beginning of the year. By the English, the year was held to begin Mar. 25; by the Scots, Jan. 1. It becomes necessary, therefore, in considering dates, to keep in view not only the style which was used, but the day on which the year was accounted to commence. There was much variation in this respect, not only between one country and another, but even in the same country between one time and another, as well as between its different provinces at the same time. The new years' days most commonly used were the Nativity or Christmas (Dec. 25), the Circumcision (Jan. 1), the Annunciation or Lady Day (Mar. 25), and the Resurrection or Easter (a movable date). Jan. 1 was adopted as the commencement of the year by France 1563, by Scotland 1600, by England 1752. In England, the inconvenience of dating by a different year from most of the other great European states had been so generally felt, that for some time before the new mode of computation was sanctioned by act of parliament, dates falling between Jan. 1 and Mar. 24 were commonly expressed in both ways, thus: 170 $\frac{1}{2}$, or 1706-7, Feb. 2, the lower or last figure indicating the year according to the present reckoning.

The above relates to dates where both the year and the day of the month are set down in figures. But in ancient writings, even where the year is expressed in figures, nothing is more common than to indicate the day of the month only by reference to some festival or other peculiarity in the service of the church. Thus, an English letter of the latter part of the 15th c. is dated in this way: 'Written at Paston, in haste, the Wednesday next after *Deus qui errantibus*,' that is, the first Wednesday after the Sunday third after Easter, on which day that portion of the church service which is called the *introit* begins with the words *Deus qui errantibus*. So, again, as late as 1610, the battle of Weissenburg, near Prague, is described by the contemporary chroniclers as fought 'upon the Sunday on which the church sings *Reddite quæ sunt Cæsaris Cæsari*,' that is, the Sunday twenty-second after Pentecost, which, in the year referred to, fell upon Nov. 8. A still more common way of dating was by reference to a saint's day. Thus, the English parliament which met at Westminster, 1399, Oct. 6, is described in the contemporary record as meeting 'on Monday, the Feast of St. Faith the Virgin;' and the Scottish parliament which met at Scone, 1318, Dec. 3, as meeting 'on the Sunday next after the feast of St. Andrew the Apostle.' In order, therefore, to interpret all this class of dates—and it is a very large one—recourse must be had to the calendar and service books of the church, or to the 'glossaries of dates' and 'catalogues of saints' days' which antiquaries have compiled from them.

For centuries, it was more common to date by the year

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of the king's reign than by the year of our Lord. The risk of error in reducing this way of computation to that now in use is such, that in Rymer's *Nadera*, a great collection of English state papers, printed at the public expense in the beginning of the 18th c., many documents of all the reigns from Richard I. to Edward IV. are misplaced by a whole year. These mistakes arose chiefly from insufficient inquiry as to the day from which the king dated his reign. This was assumed to be from the day of his predecessor's death, but in point of fact the early England sovereigns dated their reign only from the day of their coronation. Where a date, therefore, has to be ascertained by reference to a regnal year, it becomes necessary to make sure not only of the time when the king came to the throne, but of the very day from which he reckoned his reign. In the case of the popes of Rome, this inquiry is at once more than usually necessary, and more than usually troublesome, inasmuch as, until comparatively recent times, scarcely any two of them in immediate succession dated or computed on the same principle. Not a few of them, indeed, adopted different computations at different times of their reign. Thus, Pius II., during his pontificate of six years (1458-64), commenced the year sometimes Dec. 25, sometimes Jan. 1, sometimes Mar. 25. Some popes, again, dated from the day of their election; others, from the day of their consecration or coronation. Nor is it only in interpreting regnal years into modern chronology that there is a chance of error; there is proof that occasionally the regnal years were wrongly computed at the time by the kings themselves, or rather by the officers who wrote their charters. Thus, for example, it has been discovered that from the time that King David II. of Scotland returned from captivity in 1357, the year given as that of his reign is one year short of the truth. In dealing with regnal years, there is yet another risk of mistake to be guarded against. Until the 16th c. it was not common for kings to distinguish themselves by numbers from their predecessors of the same name. In order, therefore, to discriminate one from another, charters or other deeds of the English Henries and Edwards, or the Scottish Roberts and Jameses, recourse must be had to such tests as the character of the writing, its seal, its style and language, and above all, the names of the persons enumerated in it.

With no other help than is to be gained from such tests, the antiquary is often called on to fix the date of a charter, containing no reference to the year of our Lord, the year of the king's reign, the year of the pope's pontificate, or any other measure of time. If the persons mentioned in the deed be men of note, he may be able to ascertain its date to a year, a month, or even a day; on the other hand, if they are obscure, he may be unable to reduce the date within a narrower range than 50 or even 100 years.

The skill of the antiquary is not unfrequently put to the proof in another way. Dates were recorded often by reference only to an event of the time. Thus, one leaf of the Scottish statute-book contains two acts of parliament, with

DATE LINE—DATE PALM.

no more explicit record of their date than that the one was passed 'at Aberdeen in Lent next after the coming in Scotland of Vivian the Legate of the Apostolic See;' and that the other was passed at Stirling 'on the Monday next before the feast of St. Margaret the Maiden next after the first coronation of Philip king of the French': an examination of contemporary chronicles fixes the date of one of these statutes to 1177; of the other, to 1180.

DATE LINE: an imaginary line drawn on the earth's surface from n. to s., on one side of which it is to-day and on the other side to-morrow. When vessels pass this line a day is repeated or dropped. Its course is as follows: Beginning at the North Pole it runs through Bering Strait, slants w. to clear the long peninsula formed by the Aleutian chain of islands, and thus allows them the same day as the United States. It then turns e. to the 180th meridian and drops s., keeping far to the e. of the Philippine Islands till it reaches the latitude of the Fiji group. As these and proximate islands belong to England and carry on trade chiefly with Australia, the date line takes an abrupt turn to the e. so as not to interfere with local commerce. This fixing of time brings about strange results, particularly in the oriental possessions of the United States. To-day in New York is always to-morrow in the Philippines, and only the severing of a cable prevented the news of the battle at Manila from reaching the United States the day before the engagement.

DATE OF DEED: see **DEED**.

DATE PALM (*Phœnix*): genus of palms, the most important species of which is the common **DATE PALM**, the *Palm Tree* of Scripture (*Ph. dactylifera*), native of n. Africa, s. w. Asia, and parts of India, and which has been brought into cultivation in the south of Europe, and might certainly be introduced with advantage into the south of the United States, and many warm parts of America and Australia. The stem, which is straight and simple, reaches a height of 30-60 ft. and bears a head of 40-80 glaucous pinnated leaves, 8-10 ft. long, with lanceolate, acuminate leaflets, very much closed up, and a number of branching spadices, each of which on the female tree bears in general 180-500 fruits (dates, *dactyli*). A bunch of dates weighs 20 or 25 pounds. This is one of the most important and useful of all the palms, and is indispensable to millions of the human race, for the food which it supplies. In Egypt and the other countries on the n. coast of Africa, in Persia, and in Arabia, dates form the principal food, and date palms the principal wealth, of the people. The fleshy part of the fruit contains 58 per cent. of sugar, accompanied by pectine, gum, etc. The main ingredient, therefore, in a dietetic point of view, is the sugar. The fruit is eaten either fresh or dried, and in the latter state becomes an article of commerce. Cakes of dates pounded and kneaded together, and so solid as to be cut with a hatchet, are the

DATE PALM.

store of food provided for African caravans on their journey through the Sahara. A liquor resembling wine is made from dates by fermentation, and also a kind of vinegar. In Persia, an ardent spirit is distilled from dates. The soft pith at the summit of the palm stem, along with the young leaves not yet unfolded, are eaten under the name of *palm cabbage*, and the undeveloped panicles of flowers also form an article of food to the Persians and Arabs. The liquor called *palm wine* is prepared by fermentation from the sap of the palm, the top being cut off, and a hollow scooped out, in which the sap collects. Three or four quarts are obtained daily from a single palm for ten days or a fortnight. The quantity afterward diminishes, till the tree becomes quite dried up. Many of the inhabitants of n. Africa use the roasted date stones or seeds as a substitute for coffee, for which purpose the seeds of the *Phoenix reclinata* also are employed in s. Africa. The seeds or stones of dates are in many places ground for the oil after-



Date Palm.

ward obtained from them by expression, and the remaining paste or cake is given as food to cattle. From leaf-stalks of the common D. P., all kinds of basket and wicker work are made, and walking-sticks, fans, etc. The leaves themselves are made into bags, mats, etc.; the fibres of the web-like integuments at the base of their stalks into cordage. The wood is used for building, fences, etc.—The **TODDY PALM** of n. India, or wild date palm (*Ph. sylvestris*), so nearly resembles this species, that it is doubtful if it is distinct. In some places, the trees present a curiously distorted and zigzag appearance, from the practice of yearly tapping the alternate sides for the sap or *toddy*. The

DATE PLUM—DATHOLITE.

Incision is just below the crown, and slopes upward and inward; a vessel is hung below the wound, and the juice conducted into it by a little piece of bamboo. It forms a grateful and wholesome beverage; readily also fermenting into palm wine, and by distillation yielding *Arrack* (q.v.); while if boiled down without being allowed to ferment, it yields the saccharine sirup called *jaggery*, from four pounds of which one pound of sugar is obtained, a single tree producing about seven or eight pounds of sugar annually. The operation of tapping for toddy spoils the fruit of the tree, which is small and much inferior to the African date. It is, however, eaten.—Another species, *Ph. paludosa*, most gregarious of Indian palms, growing only six or eight ft. high, covers the whole landscape of the Sunderbunds with the liveliest verdure. *Ph. acaulis*, *Ph. farinifera*, and *P. spinosa*, are three closely allied dwarf species; the first grows in the driest soils in the damp valleys of the Himalaya to 5,000 ft. above the sea.

DATE PLUM (*Diospyros*): genus of plants of the nat. ord *Ebenaceæ*, consisting of deciduous trees, whose fruit is a globose berry, natives of warm or temperate climates. The black heart-wood of some species is **EBONY** (q. v.), and the hard timber of others is known as **IRONWOOD**. Some are valued for their fruit. The **COMMON DATE PLUM**, or **PISHAMIN**, called also the **EUROPEAN LOTUS** and the **DATE OF TREBISOND** (*D. Lotus*), is a tree of 20-40 ft in height, with oblong shining leaves and small reddish white flowers, native of the coasts of the Caspian Sea, Mauritania, etc., but cultivated and naturalized in s. Europe. Its fruit is of the size of a cherry, and in favorable climates larger, yellow, sweet, and astringent. It is eaten when overripe, like the medlar, or is used for conserves. The tree bears fruit abundantly in the neighborhood of London, but is somewhat tender in the climate of Britian, and its fruit more austere than in southern regions. This fruit has been supposed by some to be the *Lotus* (q.v.) of the Lotophagi. The **VIRGINIAN DATE PLUM**, or **PERSIMMON** (*D. Virginiana*), is a tree of 30-60 ft. high, with ovate oblong leaves and pale-yellow flowers, native of the southern United States of where one tree often yields several bushels of fruit. The fruit is about the size of a bullace, reddish, with six to eight oval seeds. It is not palatable till mellowd by frost, and is sweet and astringent. A kind of beer or cider and an ardent spirit are made from it.—The *Mabola* (*D. Mabola*) is cultivated as a fruit-tree in the Isle of France. Its fruit is about the size of a quince, and has a very agreeable flavor.—The *Kaki* (*D. Kaki*), called sometimes the **KEG-FIG**, is a Japanese tree, kept in some green-houses in France and England. The sweetmeat called *Figuescaques* is made from this fruit in France. The fruit resembles a plum. It is occasionally brought from China as a dried sweetmeat.—The fruit of some other species of *Diospyros* is edible; as that of *D. secandra*, a large yellow berry, which, notwithstanding a disagreeable smell, is sold in the markets of Cochin-China.

DATHOLITE, n. *dáth'ô-līt* [*dathos* for Gr. *thōlōs*, turbid,

from its want of transparency; *lithos*, a stone], or DATOLITE, n. *dāt'ō-līt* [Gr. *datēōmai*, I divide—because of its division into granular portions]: mineral of a grayish or greenish white color, sometimes yellowish white, occurring both massive and crystallized in rhombic prisms, the edges and angles of which are cut off by planes. It is composed of boracic acid, silica, and lime, with a little water. It has been found both in gneiss and in trap rocks. The Salisbury Crags and Corstorphine Hill, near Edinburgh, are localities for datholite.

DATISCACEÆ, *dā-tīs-kā'sē-ē*: small nat. ord. of plants, allied to *Begoniaceæ*, and consisting of herbs and trees, natives chiefly of the temperate parts of the N. Hemisphere. *Datisca cannabina*, a plant much resembling hemp in its general appearance, a native of Crete, possesses very marked tonic properties. It contains also an amylaceous substance, called *Datiscin*, resembling inuline. It affords a yellow dye.

DATIVE, a. *dā'tiv* [L. *dativus*, that is given, dative; *datus*, given]: the case of nouns that usually follows verbs expressing giving, or an act directed to an object; this relation in Eng. is expressed by *to* or *for*: see DECLENSION.

DATIVE, a. *da'tiv*: see EXECUTOR DATIVE.

DATNIA, n. *dāt'nī-a*: genus of fishes, sub-family *Helotinæ*, family *Percidæ*, or Perches.

DATURINE, n. *dā-tū'rīn* [from Ar. name *tātōrah*]: a white, crystalline, poisonous compound or alkaloid, obtained from all the species of thorn-apple—e.g., the *Datura stramonium*. DATURA: see THORN-APPLE.

DAUB, n. *dawb* [from *dab*, an imitation of the sound made by throwing down a lump of something moist: OF. *dauber*, to plaster—from L. *dealbāre*, to whitewash—from *de*, down; *albus*, white: Gael. *dòb*, to plaster]: a coarse painting: V. to smear or cover with any soft matter; to plaster; to paint coarsely; to lay or put on without taste. DAUB'ING, imp. DAUBED, pp. *dawbd*. DAUB'ER, n. one who. DAUB'Y, a. -ī, slimy; adhesive.

DAUBENTON, *dō-bōng-tōng'*, LOUIS JEAN MARIE: 1716' May 29—1800, Jan. 1; b. Montbar, Burgundy: French naturalist. His father wished him to be an ecclesiastic, and sent him to acquire a knowledge of theology at the Sorbonne in Paris, but D. had no inclination for this study, and turned to medicine and anatomy. In 1741, after he had taken his degree at Rheims, he returned to Montbar to practice his profession. In the following year his old school-fellow, the Comte de Buffon, induced him to come to Paris, and assist him in the preparation of his great work on natural history. For this office D. was admirably qualified. The sobriety of his understanding, the scrupulous care with which he pursued the smallest investigations, his perseverance and industry, were in complete contrast to the impatient spirit and rapid generalizing of his brilliant coadjutor, and enabled him to correct and moderate some of Buffon's hasty theories, as well as to substantially enrich the work with a multitude of new and important facts re-

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lative to the anatomy of animals. Unfortunately, Buffon, who was exceedingly jealous, allowed himself to be influenced unfavorably in regard to D., on account of the high estimation in which the Parisian savans generally held him. The result was an estrangement (ultimately reconciled), and D., who had contributed richly to the first 15 vols. of the *Histoire Naturelle*, ceased to have further connection with the work, and the labors of others ill-supplied the lack. In 1778, D. was made prof. of natural history in the College of Medicine. During the Revolution, the convention appointed him prof. of mineralogy in the Museum of National History.

Besides his labors in connection with the *Histoire Naturelle*, D. contributed largely to the first *Encyclopédie*. In the Memoirs of the Académie des Sciences, and in those of the Société de Médecine, are to be found a multitude of his most interesting and valuable papers. Cuvier composed a notice of D.'s life and works for the Memoirs of the Institute.

DAUBENY, *dōb'nĭ* or *dawb'nĭ*, CHARLES GILES BRIDLE, M.D., F.R.S.: prof. of botany and chemistry in the Univ. of Oxford; d. 1867, Dec. 12. His field was the elucidation of natural phenomena by chemical science. His attention was early directed to the chemistry of volcanic action, and one of his first productions was *An Essay on the Geological and Chemical Phenomena of Volcanoes* (Oxford 1824): followed by his great work, *A Description of Active and Extinct Volcanoes* (Lond. 1826), applying the principles of chemistry to the phenomena produced by volcanic changes. In 1837, he visited America for scientific purposes, and published the results of his observations in two vols., *Notice of the Thermal Springs of N. America* (1838) and *Sketch of the Geology of N. America*. His *Introduction to the Atomic Theory* (1831), *Lectures on Agriculture* (1841) and *Lectures on Climate* (1862), are very valuable.

DAUBER, *daw'bér*: wasp of the *Sphegidae* family, order *Pelopæus*; found in various parts of America, and named D. and mud-wasp because the female collects lumps of mud in her mouth and builds her nest with them in a series of cells. She then lays one egg in each cell, puts in it a paralyzed spider, and seals the opening. When the egg hatches, the grub finds the spider to be food sufficient to last till it is strong enough to burst its cell and enter on an independent career.

DAUBERY, n. *daw'bér-ĭ*, or DAUBRY, n. *dawb'rĭ* [Ger. *zauberei*, magic, witchcraft]: in *OE.*, enchantment; witchcraft; artful magic tricks.

D'AUBIGNÉ: see MERLE D'AUBIGNÉ.

DAU'CUS: see CABROT.

DAUDET: *dō-dā'*, ALPHONSE: one of the most popular of modern French novelists; b. Nîmes, in Provence, 1840. Much of his childhood was spent at Lyons, amid somewhat dismal circumstances, which he has touchingly described in his first long story, *Le Petit Chose*. After a short bond-

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age as an ill-paid usher in a small provincial college, he went to Paris still a youth, and gradually worked his way to his acknowledged place among the most charming storytellers of the day. His earlier works were *Lettres de mon Moulin*, *Contes du Lundi*, the amusing history of *Tartarin de Tarascon*, and the delightful series of letters entitled *Robert Helmont*. These works revealed to Frenchmen a genius of rare quality and interest, full of brightness and warmth, with all the spontaneity and loquacity of the Provençal, and a wonderful observer of all external things lightened up by the ray of fancy and the tremor of feeling. Some of his later works, especially *Jack* and *Le Nabab*, show distinct traces of the influence of Dickens in the overdone pathos and intensification of some of the situations. His great successes in his longer works have been portraits of known individuals. D. 1897.

DAUGHTER, n. *daw'tēr* [Dut. *dochter*; Ger. *tochter*; Gr. *thug'atēr*, a daughter: Skr. *duhitri*, a daughter—from *duh*, to milk: Lap. *daktar*; AS. *dohter*, a daughter]: a female child; female offspring; a term of affection for a female. **DAUGHTER-IN-LAW**, n. a son's wife. **DAUGHTERLY**, a. *-lī*, dutiful. **DAUGHTERLINESS**, n.

DAUGHTERS OF THE AMERICAN REVOLUTION: a soc. organized in Wash. D. C., 1890, Oct. 11. Any woman is eligible to membership who is over 18 years and a descendant from an ancestor who "with unfailing loyalty rendered material aid to the cause of independence as a soldier, sailor, or a civil officer in one of the several Colonies, provided applicant shall be acceptable to the soc."

DAUGHTERS OF THE CONFEDERACY: an association organized in Nashville, Tenn., 1894, Sept. 10, and composed of the wives, widows, mothers, sisters, and lineal descendants of men who served honorably in the army and navy of the Southern States, or who gave personal service to the Confederate cause, or who served in the civil service of the Confederate States.

DAUGHTERS OF THE HOLLAND DAMES: a colonial society of women incorporated in New York for the purpose of erecting a memorial to commemorate the early Dutch period of colonial history, and to preserve and collect historical documents relating to the same.

DAUGHTERS OF THE REVOLUTION: a patriotic assoc. organized in N. Y. city, 1891, Aug. 20; composed only of "women who are lineal descendants of an ancestor who actually assisted in the establishment of Amer. independence, becoming thereby liable to conviction of treason against the Gov. of Gt. Britain, but remaining always loyal to the authority of the Colonies."

DAUK, n.: see **DAWK**.

DAUK, n. *dawk*: a provincial term for a stratum of tough sandy clay.

DAULATABAD': see **DOWLATABAD**

DAUN, *down*, **LEOPOLD JOSEF MARIA**, Graf von: commander-in-chief of the imperial troops during the Seven

DAUNG—DAUPHIN.

Years' War: 1705, Sep. 25—1766, Feb. 5; b. Vienna; son of Wirich Philipp Lorenz von D., a distinguished officer in the Austrian service. Entering his father's regiment, he acquired reputation during the Turkish campaigns, 1737-39. The Austrian wars of succession gave opportunity for enhancing his fame for valor and prudence. After the peace with Prussia 1745, D. became master-gen. of the ordnance, fought against the French in the Netherlands 1746-48, and in 1754 received the dignity of field-marshal. Before this, he had, in spite of many obstacles, introduced into the imperial army a new military system, and reorganized the Military Acad. at Vienna. At the commencement of the Seven Years' War, he commanded the army of Moravia in 1757, and neutralized the defeat of the Austrians under General Broune near Prague, by driving Friedrich II., who had beleaguered that city, as far as Collin, and forcing the king, after a hard-fought battle, to evacuate Bohemia. 1758, Oct. 14, he gained another victory over Friedrich, at Hochkirch, and but for the too late arrival of the Prince of Baden-Durlach with reinforcements, would probably have annihilated the Prussian army. At Maxen 1759, Nov. 25, he compelled Fink, the Prussian general, with 11,000 men, to surrender. After this he gained no important successes, as Friedrich began to understand his tactics, and to conduct his campaigns accordingly.

DAUNG, *dawng*: tract within the presidency of Bombay; 950 sq. m. extending in n. lat. from 20° 22' to 21° 5', and in e. long. from 73° 28' to 73° 52'. It is subdivided into several petty states, the whole under one feudal chief, styled the Rajah of Daung. The country is valuable principally on account of its teak-forests, which are rented by the British government. Pop. 70,300.

DAUNT, v. *dânt* [F. *dompter*, to tame—from OF. *danter* and *donter*, to tame: Scot. *dant*, to subdue: L. *domītārē*, to tame—*lit.* to subdue by fear]: to dishearten; to discourage; to check by fear; to dismay. DAUNT'ING, imp. DAUNT'ED, pp. DAUNT'LESS, a. bold; fearless; not timid. DAUNT'LESSLY, ad. *-lī*. DAUNT'LESSNESS, n. fearlessness; intrepidity.

DAUPHIN, n. *daw'fin* [OF. *daulphin*—from L. and Gr. *delphin*, a dolphin, a star]: originally the name or title of the lord of *Dauphiné*—said to have been so named from wearing a *dolphin* as his cognizance; a title of the eldest son of the king of France from 1349 to the revolution in 1830, assumed on the acquisition of *Dauphiné* by France; his wife was called DAUPH'INESS.—The last sovereign lord of the province of *Dauphiné*, Humbert II., dying childless (1349), bequeathed his possessions to Charles of Valois, grandson of Philippe VI. of France, on condition that the heir-apparent to the throne of France should bear the title of D. of Vienne, and govern the province. Louis IX. conferred on the D. almost sovereign rights; but after his time these were gradually abridged, until *Dauphiné* was placed under the same laws as the rest of the kingdom, and the title became merely

honorary. After the revolution of 1830, it was abolished altogether.

DAUPHINÉ, *dō-fē-nā'*: formerly a frontier province in the south-west of France, now comprises the depts. Drôme, Isère, and Hautes Alpes. After the fall of the Roman empire, D. formed the southern-most part of the kingdom of Burgundy. It then passed under the dominion of the Franks, and after the dismemberment of the Carolingian monarchy, it became a portion of the new Burgundian kingdom of Arles. It then passed by legacy into the possession of the German emperor 1032, and remained united with Germany till the middle of the 14th c., when it was presented to France by the last of the lords of Dauphiné: see DAUPHIN. The old rulers of the land bore the title of Dauphin (probably from having the figure of a *dolphin* for their crest), and the name was afterward transferred to the district.

DAUPHIN'S CROWN: circle of gold set round with eight *fleurs de lis*, closed at the top with four dolphins, their tails conjoined in a *fleur de lis*.

DAUW, *daw* (*Equus Burchellii*): South African quadruped, regarded as intermediate between the zebra and the quagga, and called sometimes *Zebra of the Plains*, and by the Cape colonists *Bonte Quagga*, or *Striped Quagga*. In the language of the Bechuanas, it is *Peetsi*. It is found in numerous herds in the wide plains north of the Orange river, is rather larger than the zebra, and of more robust figure; of a light bay color, the belly, legs, and tail white; the face, head, and body striped with black; the tail is tufted to near the root. The hoofs are much less concave beneath than those of the zebra, and are thus adapted to the plains, as those of the zebra are to the rough surface of the mountains. The D. is less easily domesticated than the quagga, but more so than the zebra.—This, or a very similar species, is found as far n. as Congo and the Galla country.

DAVALLIA, n. *da-văll'li-a* [named after Edmund Davall, a Swiss botanist]: genus of *Polypodiaceæ*, the typical and only one of the sub-tribe DAVALLIÆ, -ē'ē, tribe *Polypodeæ*.

D'AVENANT, *dăv'en-ant*, Sir WILLIAM: English poet and playwright: 1605 (or 6)—1668, Apr. 7; b. Oxford, where his father kept the Crown Inn—a house at which Shakespeare was in the habit of staying on his journeys between London and Stratford. D., while still a child, had a great admiration for Shakespeare, and when only 10 years of age, on the occasion of Shakespeare's death, the precocious boy penned an ode *In Remembrance of Master William Shakespeare*. He began to write for the stage 1628, and 10 years afterward, on the death of Ben Jonson, he was appointed poet-laureate. He afterward became manager of Drury Lane Theatre, but entering into the intrigues of the civil war, was apprehended, and cast into the Tower. He escaped, however, to France, and returning, distinguished himself so much in the cause of the royalists, that he was knighted by Charles after the battle of Gloucester. D. a

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second time fell into difficulties, and was confined in the Tower for two years, when he was released, as is said, on the intercession of Milton. Once more free, he set about establishing a theatre, and succeeded. After the Restoration, he was favored by royal patronage, and continued to write and superintend the performance of plays until his death. D.'s epic, entitled *Gondibert*, a poem of about 6,000 lines, is now almost wholly forgotten.

CHARLES D., 1656-1714, son of Sir William D., distinguished himself as a writer on political economy and finance. His chief works are—*An Essay upon Ways and Means of Supplying the War* (1695); *Discourses on the Public Revenues and the Trade of England* (1698); *A Discourse upon Grants* (1700), etc.

DAVENPORT, n. *dāv'ën-pōrt* [said to be after the Countess of *Devonport*]: a lady's drawing-room writing-table with drawers underneath.

DAVENPORT, *dāv'ën-pōrt*: city, cap. of Scott co., Io.; on the Mississippi river, opposite Rock Island, Ill., the Chicago Rock Island and Pacific railroad, and at the s. terminus of the D. and St. Paul railroad; 70 m. s. of Dubuque, 184 m. w. by s. of Chicago, 330 m. n. by w. of St. Louis. It was founded 1835, incorporated 1842, and chartered 1851. It is built at the foot of the upper rapids of the Mississippi, and stretches from the base up the slope and over the summit of a bluff that extends nearly 4 m. along the river. The city is connected with Rock Island (and with the city of Rock Island), a famous govt. station and site of the central U. S. armory and arsenal, by an iron bridge accommodating railroad, carriage, and foot traffic, constructed jointly by the U. S. govt. and the Chicago Rock Island and Pacific railroad at a cost of over \$1,000,000. The public buildings include a co. court-house, city-hall, imposing opera-house, and the D. library; the educational buildings are a high school, normal school, several grammar and parochial schools, Griswold College (Prot. Episc.), St. Catherine's Hall, Academy of the Immaculate Conception (Rom. Cath.), Seminary of St. Charles Borromeo (Rom. Cath.), a large business college, and an acad. of natural sciences; among charitable institutions are a branch of the Io. soldiers' home, and a Rom. Cath. hospital. There are 30 churches: Bapt. 3, Rom. Cath. 4, Luth. 4, Meth. Episc. 5, Presb. 3, Prot. Episc. 5, Congl. 2, and Christian, Hebrew, Unit. Brethren, and Unit. 1 each. The city is lighted with gas and electricity, has an abundant water-supply and a modern fire dept., is the see of the Prot. Episc. Church in Io. and of the D. diocese of the Rom. Cath. Church. and is in a rich farming and bituminous-coal region. In 1900, it had 416 manufacturing establishments, using a cap. of \$10,774,707, employing 4,348 hands, paying wages \$1,892,737, and yielding products valued at \$11,573,670. It has extensive manufactories of farming implements, agric. machinery, saddlery and harness, woolen goods, carriages, furniture, steam-engines, cordage, clothing, pottery, and cigars, and does a large business in lum-

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ber. There are 3 national and 3 savings banks with a capital of \$890,000, 3 insurance companies, 4 daily and 3 weekly newspapers. Pop. (1870) 20,038; (1875) 21,234; (1880) 21,831; (1890) 26,872; (1900) 35,254.

DAVENPORT, EDWARD LOOMIS: 1814, Nov. 15—1877, Sep. 1; b. Boston: actor. He made his first appearance at the Lion Theatre, Providence, R. I., when 22 years old, playing Parson Will to Junius Brutus Booth's Sir Giles Overreach in *A New Way to Pay Old Debts*. After a season at the Bowery Theatre, New York, he appeared at the Walnut Street Theatre, Philadelphia, as Count Montalban in *The Honeymoon*, 1838, and then confined himself to Boston till 1847, when he accompanied Mrs. Anna Cora Mowatt to England and played Claude Melnotte to her Pauline in the large cities, and supported Macready two seasons. In 1854 he returned to the United States; 1859 became manager of the Howard Athenæum, Boston, and 1869 of the Chestnut Street Theatre, Philadelphia; 1873 was at Wood's Museum, New York, and 1875-6 played the part of Brutus in the long run of *Julius Caesar* at Booth's Theatre. He married Fanny E. Vining, daughter of the manager of the Haymarket Theatre London, by whom he had six children, all of whom went on the stage. Of these, Fanny D. is the best known in the amusement world.

DAVENPORT, JOHN: 1597-1670, Mar. 15; b. Coventry, England: first minister of New Haven, Conn. He was educated at Oxford Univ., entered the Anglican priesthood, was appointed chaplain in Hilton Castle, and minister of St. Stephen's Church, London; became a non-conformist, resigned his charge and removed to Holland 1633, and withdrew from the Established Church 1635. He aided in securing the patent of the Mass. colony, and immigrated to Boston 1637; was received with much consideration and tendered a seat in the synod; but, disapproving the religious controversies then pending, went to Quinipiac and founded the colony of New Haven 1638. He preached the first sermon on the Sunday following his arrival, became one of the seven pillars of the colonial govt., hid the regicides Goffe and Whalley in his house, preached in New Haven 30 years, and succeeded John Wilson as pastor of the First Church, Boston, 1668, Dec. 9.

DAVENTRY, *dāv'en-trĭ*, local pron. *dān'trē*: ancient municipal borough in the west of Northamptonshire, England, at the sources of the Avon and Nene, 13 m. w. of Northampton, and near the Birmingham Railway, Grand Junction Canal, and Watling Street. It is well built on an eminence, and has two principal streets. The chief manufactures are shoes and whips for export. D. was occupied by Charles I. 1645, before the battle of Naseby. A mile to the east of D., on Dane's or Borough Hill, is a foot-shaped Roman camp, supposed to be Ben-avenna, one of the largest in the kingdom. Near it is another of an acre in extent. Pop. (1891) 3,939.

DAVID, *dā-vēd'*: town of recent origin, on the left bank of a river of the same name in Panama, one of the federal

provinces of the United States of Colombia (formerly New Granada), on the frontier of Costa Rica, Central America; lat. $8^{\circ} 23'$ n., and long. $82^{\circ} 27'$ w. It is separated by a comparatively narrow part of the Isthmus of Darien from the lagoon of Chiriqui, an inlet of the Caribbean Sea, which, with sufficient depth for large ships, penetrates nearly 50 m. into the land toward the Pacific Ocean. To this position the place appears to owe its prosperity. It exports rice, coffee, hides, turtle, shells, and gold-dust. Its climate is understood to be comparatively salubrious. Pop. upward of 4,000.

DAVID, *dā'vid* (Heb. 'Beloved'), King of Israel: B.C. 1085-1015 (according to the common reckoning); b. Bethlehem; eighth and youngest son of Jesse, of the tribe of Judah. He was probably educated in one of the schools of the prophets. He first publicly signalized himself by slaying Goliath of Gath, a gigantic Philistine, who had 'defied the armies of Israel.' Previously, he had acquired repute as a skilful harper, and had subdued by his music the paroxysms of insanity which afflicted King Saul at certain seasons. The prophet Samuel, by divine command, anointed D. king during the lifetime of Saul, who soon began to regard him as a dangerous enemy, and persecuted him. A kind of intermittent war between the two was the consequence, in which D. was often reduced to great straits. At first, he was simply in the position of a guerilla chief, and his comrades were mainly persons in desperate circumstances—'all who were in distress, in debt, or discontented.' Latterly, he lived among the Philistines as one of themselves, and from the Philistine prince of Gath obtained a present of the strong fortress of Ziklag, after which he was joined by a class very different from his original outlaws—men of consideration, and tried warriors, from various tribes. The contest between him and Saul now assumed the proportions of a civil war. It ended only at the death of Saul, whereupon D. ascended the throne of Judah, with the city of Hebron as his capital. The other tribes elected Ishbosheth, a son of Saul, to be their king, after whose violent death D. first acquired possession of the entire kingdom, B.C. 1055, over which he ruled until his death. His first undertaking in his new office was a war against the Jebusites. He took their chief city, Jerusalem, and made it his residence, as also the centre of the religious worship of the Hebrews. Subsequently, he subjugated the Philistines, Amalekites, Edomites, Moabites, Ammonites, and, after a long war, the Syrians. His kingdom now stretched from the Euphrates to the Mediterranean, and from Syria to the Red Sea, and contained a population of 5,000,000. He fostered navigation and trade, especially with Tyre, and sought to instruct the Hebrews in the arts. No less careful was he of the religion of his countrymen. He divided the priests and Levites into classes, and appointed sacred singers and poets for the musical service of God. Law and justice likewise received improvement at his hands, through the institution of higher and lower judiciary courts, while he secured the stability of his power by the formation of a standing army. He was a warrior king

of far-famed prowess. Besides this, there were 12 governors over the tribes of Israel. D. was not, however, without his trials. Two conspiracies were formed against him in his own family, and though both failed, they greatly embittered his life. His sensual excesses, the constant offense of oriental kings,—occasional lapses in him—also drove him into acts of criminality, the memory of which haunted him through life. ‘My sin is continually before me.’ Yet we cannot help recognizing in the man, in spite of all his infirmities and sins, a sincerity of moral feeling rarely equalled in history. His passions might lead him astray, but they never blinded his conscience. From his evil wanderings he returned with utmost humiliation, deep repentance, and new purpose of uprightness. The crime once committed, D. never tried to find excuses for it, and so blunt the edge of his deserved misery. The psalms which he has left reveal to us the soul of the royal poet wrestling with a host of black troubles, fears, and doubts, out of which, however, as from the seething bosom of chaos, there emerges at last a ‘full-orbed faith,’ made perfect by suffering and much tribulation. There has never been trust in God more clear, unwavering, and tender, than that expressed in the 23d Psalm. It is this many-sided experience of life that has made the ‘Psalms of David’ (though it is uncertain who made the collection, which contains many not written by David himself) the most precious heritage of the afflicted and tried in all ages of the Christian Church. By those theologians who look upon Jewish history as having a *typical* or *allegorical* meaning as well as a literal one, D. is regarded as a type of Christ.

DAVID I. (often called ST. DAVID), King of Scotland: abt. 1080–1153, May 24; youngest of the six sons of King Malcolm Ceanmohr, by his second wife, the Anglo-Saxon princess, St. Margaret (q.v.). During the fierce struggle for the Scottish crown, which followed the death of his father 1093, the youthful D. seems to have found refuge in England, with his sister, Eadgyth or Matilda, who, in 1100, married Henry I., King of England. The residence of D. at the court of this accomplished monarch appears to have been prolonged for several years, and the assertion of a contemporary English annalist may be credited, that ‘it freed him from the rust of Scottish barbarity.’

In 1107, his elder brother, Alexander, succeeded to the throne; and D. became prince of Cumbria, a territory which comprised what are now the shires of Cumberland, Dumfries, Roxburgh, Selkirk, Peebles, Lanark, Dumbarton, Renfrew, and Ayr, and was held of the English king by the heir of the king of the Scots. With this great principality, he seems to have held lands in Lothian; and by his marriage in 1110 with Matilda, widow of the Earl of Northampton, he acquired possession of that earldom, together with a claim to the rest of the vast domains of her father, Waltheof, Earl of Huntingdon, of Northampton, and of Northumberland. The first acts of D., as prince of Cumbria, were to restore the fallen bishopric of Glasgow, and to bring a colony of Benedictine monks from the new

founded monastery of Tiron, in France, and to plant them beside his forest castle of Selkirk. This was in 1113; and even thus early, as his charters show, he had gathered round him the Bruces, the Lindsays, the Morvilles, the Umfrayvilles, the Percies, the Riddels, and other Anglo-Norman knights, through whose help he was to effect such a momentous change in Scotland.

In 1124, he succeeded to the Scottish throne, on the death of his brother, King Alexander I. That prince had had to fight for his crown against the heirs of the old Celtic dynasties, supported by the wild tribes of the north and the west. They renewed the struggle with his successor, first in 1130, when they advanced almost to the gates of Brechin; and again about 20 years later, when they appear to have been encountered on the plains of Murray. On both occasions, the Anglo-Norman chivalry with which D. had garrisoned the southern provinces, gave him decisive, but far from easy victories. He was less fortunate in his wars beyond the Tweed. In 1127, he had sworn, with the other great barons of England, to maintain the right of his niece, Matilda, as heir of the English crown, should her father, Henry I., die without male issue of his own body. The event thus contemplated came to pass 1135; and when Stephen mounted the English throne, D. took arms in behalf of Matilda and subdued almost all the country to the south of Durham. Peace was restored by the grant of the earldom of Huntingdon, and the promise of the earldom of Northumberland, to D.'s son Henry, then in his 20th year. But the war was soon resumed; and in 1138, the king of Scots, deserted by Bruce and others of his Anglo-Norman vassals, was signally defeated in 'the Battle of the Standard,' near Northallerton. The next year, a second peace was concluded between the two kings, when the promised earldom of Northumberland was bestowed on D.'s son Henry. In 1141, the Scottish king marched into England for the third time to assert the rights of Matilda. He was a third time defeated, and regained his own country with difficulty.

The rest of his reign was devoted to the accomplishment of the great revolution which had been begun by his father, King Malcolm, and his mother, St. Margaret, and continued by his brothers, King Edgar and King Alexander—the establishment in Scotland of the civilization which obtained in England. By building castles, he secured the peace and safety of the country; by erecting burghs, he promoted its trade, shipping, and manufactures, and laid the foundations of its freedom; by endowing bishoprics and monasteries, he provided homes for the only men of learning and enlightenment known in his time, when they were the schoolmasters, statesmen, lawyers, physicians, bankers, engineers, artists, builders, agriculturists, of the age.

King D. died at Carlisle. His son Henry had died in the previous June, and he was succeeded by his grandson, Malcolm, then in his 12th year. Some pleasing traits of King D.'s admirable personal character are preserved in the *Eulogium Davidis Regis Scotorum*, by his friend St. Ailred,

abbot of Rievaulx, printed in Pinkerton's *Vita Antiquæ Sanctorum Scotiæ* (Lond. 1789). Other instructive materials for the king's life are supplied by the same writer in his tract *De Bello Standardi*, printed (with other contemporary accounts of the battle) in Twysden's *Historiæ Anglicanæ Scriptores Decem* (Lond. 1652); and by Joceline of Furnes in his *Vita S. Walthevi* (abbot of Melrose, and D.'s stepson), printed by the Bollandists in the *Acta Sanctorum*, and in a less perfect state in Fordun's *Scotichronicon*. The remains of D.'s legislation, including the interesting code of the *Leges Burgorum*, have been carefully collected in the first volume of *The Acts of the Parliaments of Scotland* (Edin. 1844).

King D. is often called St. David. He was never formally canonized, or placed in the roll of saints of the Rom. Cath. Church; but his name was inserted in the calendar prefixed to King Charles's Prayer-book for Scotland, printed at Edinburgh 1637.

DAVID II.: see BRUCE.

DAVID, or DEWI, SAINT: patron saint of Wales: according to tradition, b. abt. the end of the 5th or beginning of the 6th c.; d. abt. 601; son of the Prince of Ceretica (Cardiganshire). Having resolved on a religious life, he spent the customary probationary period in solitude, after which he commenced preaching. He built a chapel at Glastonbury, and founded twelve monasteries, the chief of which was at Menevia, in the vale of Ross. At the synod of Brevy, in Cardiganshire, 519, St. D. showed himself a strong opponent of the Pelagian heresy. Subsequently, he became abp. of Caerleon-upon-Usk, but transferred his see to Menevia, now called St. Davids, where he died. St. D. was celebrated for eloquence and success in conversion. His life was written by Ricemarch, bp. of St. Davids (d. abt. 1099). The *Historia S. Davidis*, by Giraldus Cambrensis, written about 1175, published in Wharton's *Anglia Sacra*, is little more than an abridgment of Ricemarch's work.

DAVID, *dâ-vêd'*, FÉLICIEN: 1810, Mar. 8—1876, Aug. 29; b. Cadenet, dept. of Vaucluse: French musical composer. He was at first a chorister in the cathedral of Aix, and at the age of 20 entered the Paris Conservatoire. He became an ardent disciple of St. Simon, afterward of Enfantin; and finally, on the break-up of the brotherhood attempted at Ménilmontant 1832, he betook himself, with 11 of his fellow-dreamers, to the East, there to realize his theory of life in undisturbed peace. The little knot of enthusiasts reached Constantinople, whence they made their way to Smyrna and Cairo. As they had no means, they suffered greatly from want, sickness, and ill-usage. The plague forced them to flee from Egypt to the coasts of Syria. It is said that they dragged a piano with them over the sands, and refreshed themselves with its music, when they rested on their toilsome march. Returning to France, D. remained in obscurity till 1844, when he brought out at the Conservatoire his *Désert*, a grand *Ode symphonie*, as he called it, the words of which were furnished by his friend and fellow-wanderer, Auguste Colin. Its success was sudden and complete. D. was declared a

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master at once, and his *Désert* was performed in all the theatres. Subsequently, he travelled through Belgium and Germany, everywhere greeted with applause. Less successful works were—*Moïse sur le Sinaï* (1846), *Christophe Colomb*, and *Le Paradis* (1847), and *La Perle du Brésil* (1851), *Herculaneum* (1859), and *Lalla Rookh* (1862). He was appointed an officer of the Legion of Honor 1862; and librarian to the Paris Conservatoire de Musique 1869.

DAVID, JACQUES LOUIS: 1748. Aug. 30—1825, Dec. 29; b. Paris: founder of the modern French school of painting, and, according to his countrymen, ‘the regenerator of French art.’ He studied under Vien both at Paris and Rome. His first efforts by no means indicated the latent tendencies of his mind. His devotion to the classic style of art was first perceptible to any extent after his second visit to Rome 1784, where he executed his *Horatii*. It excited the greatest enthusiasm. In 1787, he painted *The Death of Socrates*; in 1788, *The Loves of Paris and Helen*; and in 1789, *Brutus Condemning his Son*. During the Revolution, he was artistic superintendent of those grand national *fêtes* and solemnities that recalled (rather theatrically) the customs of ancient Greece. As a member of the Convention, he voted for the death of Louis XVI.; he was a hot Jacobin, and a member of the committee of public safety, in all the atrocities of which he shared, and, in consequence, was twice imprisoned after the fall of Robespierre. To the period of the Revolution belong his *Murder of Marat*, *Murder of Pelletier*, and his *Oath taken in the Tennis Court*. His genius culminated in the *Rape of the Sabines* (1799). In 1804, Napoleon appointed him his first painter, and gave him a number of commissions, and among his best and most celebrated works are several historic portraits of the emperor, such as *Napoleon Crossing the Alps*. D. was warmly attached to Napoleon, and in 1814, when the Duke of Wellington paid a visit to his studio, and expressed a wish that the artist would paint his portrait, he coldly replied: ‘I never paint Englishmen.’ As one of the regicides of Louis XVI., he was banished in 1816 from France, and died in exile at Brussels. D.’s latter style is more free and natural than his earlier, in which his figures, though manifesting quite an ideal beauty of form, have all the rigidity of sculpture and lack vital expression. Among his paintings during banishment were—*Love and Psyche*, *The Wrath of Achilles*, and *Mars Disarmed by Venus*. The number of his pupils who acquired distinction was very great.

DAVID, PIERRE JEAN (commonly called David d’Angers): 1789, Mar. 12—1856, Jan. 5; b. Angers: French sculptor. He went to Paris when very young, and studied art under his namesake, Jacques Louis D. (q.v.). In 1811, his *Death of Epaminondas* obtained the first prize for sculpture given by the Acad. of Arts. In 1816, he returned to France. A statue of the Great Condé, which he executed about this time, established his reputation. In 1826, he was named a member of the Institute, and appointed a prof. in the School of the Fine Arts. Two years later, he went to Germany, where

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he executed a colossal bust of Goethe for the library at Weimar; and in a second tour 1834, similar busts of Dannecker, Schelling, Tieck, and Rauch, as well as many portrait statues of life-size. During the July revolution, D. had fought in the ranks of the people, and, in consequence, he was employed by the new government to execute the frontispiece of the Pantheon 1835. He finished it 1837. By many it is considered his *chef-d'œuvre*. In 1848, the well-known republicanism of the artist procured him a seat in the constituent assembly. After the *coup-d'état* he was sent into exile and went to Greece, but soon returned to France. The principal of his many works are—*A Young Girl at the Tomb of Botzaris*, *A Monument of Bonchamp*, *A Virgin at the Foot of the Cross*, a *Saint John*, statues of General Foy, Marshal St. Cyr, Corneille, Fénelon, and Racine, and busts of La Fayette, Béranger, Rossini, Chateaubriand, Balzac, and Casimir Delavigne. There is great force of expression in many of D.'s works, but the drawing and execution are not always accurate.

DAVIDISTS, *dā'vīd-ists*: sect, followers of David of Dinant. Their doctrines were condemned by the Synod of Paris 1209. They held that real existence pertained to the Deity alone.

DAVIDISTS, or DAVID GEORGIANS: sect, followers of David George, or Joris: see JORIS, DAVID.

DAVIDS, ST: ancient and decayed episcopal city, in the w. of Pembrokeshire, the westmost town in Wales. It is on the streamlet Allan, a mile from its mouth, near St. David's Head, on the n. side of St. Bride's Bay. It has been the seat of a bishopric since about 519, when St. David transferred the archbishop's see to St. D. (before called Mynyw, and by the Romans Menevia) from Caerleon. It was in the middle ages a large city—the great resort of pilgrims to St. David's shrine; it is now a small village, with only a few good houses, besides those of the clergy. It has a fine cathedral, and splendid remains of religious houses, episcopal palace, and St. Mary's College (founded by John of Gaunt), within a high embattled wall nearly a mile in circuit. These were several times pillaged and burned by the Danes and others during the 9th and two following centuries. The cathedral, founded 1180, on the site of the monastery of St. David, is cruciform. Its dimensions in the interior are: length, 290 ft.; breadth, 76; nave, 124; choir, 80; transept, 120; central tower, 127 ft. high. It contains a curious movable pulpit, an elaborately worked bishop's throne; the tomb of the Earl of Richmond, father of Henry VII.; and also sepulchral monuments of the early bishops of the see, as Giraldus Cambrensis, Anselm, etc. Among the former bishops were Laud, Bull, South, and Horsley; and a very recent occupant of the see was Cannon Thirlwall, historian of Greece. The cathedral establishment includes a bishop, a dean, 4 canons, 5 vicars choral, and other officers residentiary, with 4 archdeacons, and 12 prebendaries, or honorary canons, non-resident. The bishop has £1,500 a year, and lives at Abergwili, near Caermar.

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then. The people are chiefly agricultural laborers. William the Conqueror made an offering as a pilgrim at St. David's shrine. Cairns, tumuli, holy wells, chapels, crosses, etc., abound around St. D., especially at ST. DAVID'S HEAD, a high rugged promontory two m. n.w. of the city, and the westmost point in Wales, in lat. $51^{\circ} 54' \text{ n.}$, and long. $5^{\circ} 20' \text{ w.}$ Pop. (1881) 6,281; (1891) 5,803.

DAVIDSON, *dā'vīd-son*, LUCRETIA MARIA: 1808, Sep. 27—1825, Aug. 27; b. Plattsburg, N. Y.: poet. She began composing verses in secret when only four years old and before she could write, using print letters, and on being discovered burned all her compositions. She learned to write when seven years old, composed her earliest preserved poem, *Epitaph on a Robin*, when nine, and at twelve had read many historical and dramatic works, including Shakespeare and Goldsmith. She was sent to school when sixteen, but soon became a victim to consumption. Her preserved poems, numbering 278, were published under the title of *Amir Khan and Other Poems*, 1829, in conjunction with those of her sister, Margaret Miller D., 1850, and with illustrations 1871.

DAVIDSON, MARGARET MILLER: 1823, Mar. 26—1838 Nov. 15; b. Plattsburg: sister of Lucretia Maria D.: poet. She was also precocious as a writer of verse; composed several poems when only six years old; wrote *The Tragedy of Alethia*, a drama, and privately acted in it when ten; and had the friendship and encouragement of Washington Irving, who wrote memoirs and supervised the publication of the poems of both sisters, 1850.

DAVIES, *dā'vīz*, CHARLES, LL.D.: 1798, Jan. 22—1876, Sep. 18; b. Washington, Conn.: mathematician. He graduated at the U. S. Milit. Acad. 1815; spent a year on garrison duty in New England; resigned and was appointed asst. prof. of mathematics and philosophy at the Milit. Acad. 1816; accepted a like position in Trinity College, Hartford, 1837; was paymaster U. S. army, 1841, Nov. 17—1845, Sep. 30; and prof. of mathematics and philosophy in the Univ. of New York, 1848—9, and of higher mathematics in Columbia College, New York, 1857—65. He prepared and published an entire series of standard text-books on mathematics 1837—67.

DAVIES, Sir JOHN: poet and statesman: 1570—1626 Dec. 7; son of a legal practitioner in Wiltshire, England. At the age of 15 he was sent to Queen's College, Oxford, where, five years later he took his degree of B. A., having spent two of these years in the Middle Temple, where he studied law. He was called to the bar 1595, but forfeited his privileges, and eventually was expelled from the Temple for certain indiscretions. He began his political career 1601. In 1603, he was sent by James I. as solicitor-gen. to Ireland, and almost immediately became attorney-general. He was called to the degree of sergeant-at-law 1606, and in the spring of the following year received knighthood. On the assembling of the Irish parliament, called 1613, D. was chosen speaker of the house of commons. In 1620, he

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took his seat in the English parliament as member for Newcastle-under-Lyne. He died suddenly of apoplexy.

As a lawyer, the character of D. is that of a man of great learning and talent. His *Reports of Cases adjudged in the King's Courts in Ireland* (1615), were the first reports of Irish cases ever published, and had a preface from the pen of D., esteemed by an old critic the best ever prefixed to a law-book. But it is as a poet that he is chiefly notable. His *Orchestra, or a Poem on Dancing* (1596), was followed by his great work, the *Nosce Teipsum, a Poem on the Soul and the Immortality thereof* (1599). His verse is elegant without being artificial, and flowing without being careless, while its compact structure is remarkable for his times. Among his miscellaneous works were *Discovery of the True Cause why Ireland was never Subdued entirely until the Reign of King James I.* (Lond. 1612), a work which has always been considered of great value to political inquirers.

DAVIES, SAMUEL, D.D.: 1724, Nov. 3—1761, Feb. 4; b. Summit Ridge, Del.: Presb. minister. He received a classical education, was licensed to preach 1746, ordained an evangelist and assigned to Hanover co., Va., 1747, went to England and collected funds for the college of N. J. 1753, aided in establishing the first presbytery in Va. 1755, and after being chosen twice accepted the presidency of the College of N. J., succeeding Jonathan Edwards, 1759. His sermons were published in 5 vols. (London 1767) and 3 vols. (New York 1851). He was esteemed a great pulpit orator.

DAVIESS, *dā'vīs*, JOSEPH HAMILTON (widely known as Jo DAVIESS): 1774, Mar. 4—1811, Nov. 8; b. Bedford co., Va.: lawyer. He was educated at Harrodsburg Acad., fought against the Indians 1793, studied law and began practice at Danville 1795, and attained high rank in his profession. He was said to have been the first western lawyer who ever argued a case in the U. S. supreme court, married a sister of Chief Justice Marshall, was appointed U. S. dist. atty. for Ky., and instituted proceedings against Aaron Burr (1806) for levying war on a nation with which this country was at peace. He was maj. of Ky. vols. under Gen. Harrison in the Indian war, and at Tippecanoe received a mortal wound while leading a cav. charge, 1811, Nov. 7, and died the next day. He was eccentric in manner and dress, and author of *A View of the President's Conduct concerning the Conspiracy of 1806* (1807).

DAVILA, *dā'vê-lâ*, ENRICO CATERINO: 1576, Oct. 30—1631; b. Pieve di Sacco, in the vicinity of Padua. D., when seven years old, was taken to France for his education. At the age of 18, he entered the service of Henry IV., which he afterward exchanged for the military service of Venice. He was shot on his way to Crema, to take command of the garrison, 1631. D. is famous for his great work, *Storia delle Guerre Civili di Francia* (Venice 1630), a history comprising that eventful period from the death of Henry II., 1559, to the peace of Vervins, 1598.

DAVILLA, n. *da-vîl'la* [named after Pedro Franco Davila, a Spanish naturalist]: genus of plants, ord. *Dil.*

leniaceæ. *D. rugosa* is astringent. *D. elliptica*, also astringent, furnishes the vulnerary called Sambaibinha.

DA VINCI, LEONARDO: see LEONARDO DA VINCI.

DAVIOUD, *dā-vô'*, GABRIEL JEAN ANTOINE: 1823, Oct. 30—1881, Apr. 6; b. Paris: architect. He was educated at the School of Fine Arts and the School of Design, where he took all the prizes, and executed his first work of importance, the Theatre d'Etampes, 1850. He planned the improvements of the Bois de Boulogne and Longchamps, constructed the fountain of St. Michel, restored the Hôtel de Ville, and with Jules Bourdais designed the elegant Trocadero Palace for the universal exposition 1878. He was decorated with the Legion of Honor 1862.

DAVIS, *dā'vīs*, CHARLES HENRY, LL.D.: 1807, Jan. 16—1877, Feb. 18; b. Boston: naval officer. He was appointed midshipman in the U. S. navy 1823, promoted past midshipman 1829, commissioned lieut. 1834, commander 1854, capt. 1861, commodore 1862, and rear-admiral 1863. While surveying off Nantucket 1846-49, he discovered the new south shoal and several smaller ones in the track of steamships plying between New York and Boston, and New York and European ports. He was supt. of the *American Nautical Almanac* 1849-56, and again 1859; was chief of staff and flag-officer at the capture of Port Royal 1861; in command of the western flotilla off Fort Pillow 1862, May; defeated a squadron of 8 Confederate iron-clads May 10; captured all the Confederate iron-clads and rams but one off Memphis, and received the surrender of that city, June. After the war he received the thanks of congress, was supt. of the naval observatory 1865-67, commander of the Brazilian squadron 1867-69, commandant of navy yard, Norfolk, 1870, and subsequently again supt. of the naval observatory. He was a member of the National Acad. of Sciences and of numerous scientific societies, and author of several technical works of high merit.

DAVIS, DAVID, LL.D.: 1815, Mar. 9—1886, June 26; b. Cecil co., Md.: lawyer. He was educated at Kenyon College, Ohio, studied law at Lenox, Mass., and in the Yale Law School, was admitted to the bar in Ill. 1835, and began practicing at Bloomington. In 1844 he was elected a member of the legislature, 1847 of the constitutional convention, and 1848, 55, and 61, judge of the eighth state circuit. While serving his last term he was appointed a justice of the U. S. supreme court by his intimate friend Pres. Lincoln, 1862, Oct.; was nominated for pres. by the national labor reform party, and received nearly 100 votes on the first ballot for the presidential nomination of the liberal republican party, 1872; was elected U. S. senator to succeed Gen. Logan 1877-83; was pres. pro tem. of the senate 1881, Oct. 13—1883, Mar. 3; and resigned just before the expiration of his term.

DAVIS, HENRY WINTER, LL.D.: 1817, Aug. 16—1865, Dec. 30; b. Annapolis: lawyer. He graduated at Kenyon College, Ohio, 1837, studied law in the Univ. of Va., and began practicing in Alexandria. He removed to Baltimore 1850, became a brilliant whig orator, was elected to con-

gress from the 3d. dist. 1854 and 56, and served on the committee on ways and means. He allied himself with the national party at the dissolution of the whig party, was again elected to congress 1858, and defeated as an unconditional union candidate after the Baltimore riots 1861, declined the republican nomination for vice-pres. on the ticket with Abraham Lincoln 1860, served another term in congress, and held the chairmanship of the committee on foreign affairs 1863-65. He was a staunch supporter of the Union, and favored negro emancipation, enlistment, and suffrage.

DAVIS, JEFFERSON, LL.D.: statesman: 1808, June 3—1889, Dec. 6; b. Todd co. (then part of Christian co.), Ky.; son of a Georgia revolutionary soldier. In his infancy his father removed to Wilkinson co., Miss. At the age of 16 he left Transylvania Coll., Ky., and entered West Point Milit. Acad. He graduated 1828, was assigned to the 1st infantry, was in the Black Hawk war of 1831-2, and was promoted 1st lieut. dragoons 1833. He resigned 1835 in order to marry the daughter of Col. Zachary Taylor, afterward president. After a few quiet years as a cotton-planter near Vicksburg, Miss., he engaged in politics 1843, was a Polk and Dallas presidential elector 1844, and was elected to congress, taking his seat 1845, Dec. He strongly opposed protective tariff, and was active in legislation preparatory to the war with Mexico. In 1846 he resigned from congress to enter the war, having been unanimously chosen col. of the 1st Miss. rifle vols. At Monterey he showed great gallantry. At Buena Vista his cool and skillful management at a critical point foiled the enemy's final attempt to break the American line. Though severely wounded, he kept to his saddle till the fight was won.

He entered the U. S. senate on appointment by the gov. of Miss., and was afterward unanimously elected by the legislature. In the senate he vigorously urged state-rights, and upheld the fugitive slave-law. He resigned his seat 1851 to enter the canvass for gov. of Miss. as candidate of the state-rights party. He was defeated, but his popularity reduced the adverse majority from more than 7,000 to about 1,000. In the presidential contest 1852 he strongly supported Franklin Pierce, who after election appointed him sec. of war. He administered this office 1853-57 with much ability, advocating revision of army regulations, introduction of the light-infantry or rifle system of tactics, substitution of iron for wood in gun-carriages, manufacture of rifled arms, and improvement of sea-coast defenses.

Re-elected to the senate for the term to end 1863, Mar. 4, he antagonized Douglas's proposal of 'popular sovereignty and advocated instead the extension of the Missouri compromise line to the Pacific. As a speaker he was fluent and earnest, but terse. When secession was agitated he counselled preservation of the union, but with the provision that state sovereignty be maintained. After the election of Pres. Lincoln, Mr. Davis advised the slave states to prepare for resistance should usurpation be attempted from Washington; and he was a leading member of the secret caucus of southern senators at the capitol, 1861, Jan. 5, to

form the scheme of secession. In a speech in the senate, 1861, Jan. 10, he asserted the right of secession by a state, denying any federal right of coercion, and urging that the U. S. garrison be immediately withdrawn from Fort Sumter. On the previous day Mississippi had actually seceded; and when, 14 days later, he received official notice of this action by his state, he resigned his seat in the senate and went home. Before he reached home the Mississippi convention had appointed him commander-in-chief of the state army; and on Feb. 9 he was elected by the provisional congress at Montgomery, Ala., pres. of the confederate states, which office he assumed Feb. 18. In Nov. following he was without opposition elected pres. for six years, and was inaugurated 1862, Feb. 22.

From the disappointment occasioned by the losses of Fort Donelson and New Orleans, an opposition to Mr. Davis's administration sprang up in the south, which slowly increased till the day of its fall. It showed itself in demands either that the war should be prosecuted on a different plan, or that negotiations should be opened with a view to peace. His financial management was sharply censured by many; he was accused by others of favoritism in military appointments, and of intermeddling with commanders in the field; he was charged with being untrue to his great doctrine of state-sovereignty because, as a party at the south alleged, he had declared his intention to apply coercion to any member of the confederacy under certain conditions. The final result shows that the secession cause was a mistake—a lost cause from the beginning; but it is difficult to see how any leader could have shown ability or devotedness in its behalf exceeding his. It is evident that whatever may have been his misjudgments, he was the animating soul of the confederacy. His determined attitude throughout the war is seen in his proclamation of 1862, Dec. 2, retaliatory to Pres. Lincoln's proclamation of emancipation: in this document he declared Gen. B. F. Butler, then holding New Orleans, an outlaw to be hanged as soon as captured, and ordered that all commissioned officers serving under him, or found serving in company with slaves, should be treated 'as robbers and criminals deserving death.' But this was a threat not executed. His steadfastness of purpose is illustrated by his proclamation issued at Danville, 1865, Apr. 5, when he was a fugitive from his capital, in which he says: 'Relieved from the necessity of guarding particular points, our army will be free to move from point to point, to strike the enemy in detail far from his base.' Five weeks afterward he was a prisoner, and his army had ceased to exist.

The evacuation of Richmond was announced to him by Gen. Lee as a military necessity, 1865, Apr. 2. On that Sunday evening D. with his cabinet and personal staff left the city. On Apr. 9, the fleeing and half-famished remnant of Lee's brave army, enveloped by Gen. Grant's forces, surrendered—the two armies instantly fraternizing and sharing rations like old friends. To this surrender D. did not consent, having merely proposed terms for an armi-

stice and then fled southward without awaiting a reply. The sending of this proposal, however, had opened the way between Grant and Lee for negotiations of surrender. While temporarily encamped near Irwinsville, Ga., D. was captured with his wife and escort by a Union cavalry force, 1865, May 10. He was taken to Fortress Monroe, where he was confined as a prisoner of war two years, being indicted for treason by a grand jury in the U. S. dist. court of Va. at Norfolk, 1866, May 8. A charge of complicity in the assassination of Pres. Lincoln had been made, but was dropped. He was brought before the court at Richmond on a writ of *habeas corpus* 1867, May 13, and was admitted to bail in the sum of \$100,000 on a bond signed by Horace Greeley, Gerrit Smith, and Cornelius Vanderbilt. He was never brought to trial: in 1868, Dec., the U. S. govt. entered a *nolle prosequi* in his case, and he was included among those pardoned in the general amnesty of 1868, Dec. 25. An attempt, 1876, to except him from amnesty on the ground of his permitting the atrocities on prisoners in the war, failed. On his release he made his home in Memphis, Tenn., becoming pres. of a life-insurance co. In 1879 he inherited an estate at Beauvoir, Miss., from Mrs. Dorsey, an old family friend and an admirer of his principles, and resided there in semi-retirement, making occasional addresses at dedications of Confederate monuments. He never retracted his theories on slavery and secession. At his death at the age of 81 in New Orleans where he was visiting, there was public mourning throughout the south, but the tokens of mourning usual at the decease of a former sec. of war were not displayed at the war department in Washington. His body was removed from New Orleans to Richmond 1893, May 31, with appropriate ceremonial.

He published; besides several of his speeches, *Rise and Fall of the Confederate Government* (2 vols., 1881), in which he discusses secession and upholds his own policy in administration. A *Memoir* was issued by his wife (1890).—Of two biographies of him, both by southerners, one by Frank H. Alfrend (1868) warmly praises him; the other, by Edward A. Pollard (sub-title, *Secret History of the Confederacy*), concedes his unyielding spirit, but accuses him of an incompetency and favoritism fatal to the southern cause. See also Dr. Craven's *Prison Life of Jefferson Davis* (1866).

DAVIS, JEFFERSON C.: 1828, Mar. 2—1879, Nov. 30; b. Clark co., Ind.: military officer. He served through the Mexican war, and was appointed 2d lieut. 1st U. S. artil. for gallantry at Buena Vista 1848, June 17; was promoted 1st lieut. 1852; placed in command of the garrison of Fort Sumpter 1858; and was with Maj. Anderson during the bombardment 1861, Apr. In the following month he was promoted capt. and given leave of absence; raised the 22d Ind. vols.; was elected col.; and commanded a brigade under Gens. Frémont, Hunter, and Pope in Mo.; promoted brig.gen. of vols. for capturing a large Confederate force and valuable military stores at Milford, Mo., 1861, Dec. 18; took part in the siege of Corinth; led the 20th army corps into the battle of Stone River; commanded the 14th corps

in the Atlanta campaign; and was brevetted maj.gen. of vols. 1865, and appointed col. 23d U. S. inf. 1866, July 23. He was subsequently in command of troops in Alaska, and succeeded the murdered Gen. Canby in the finally successful campaign against the Modocs 1873.

DA'VIS, JOHN: eminent navigator in the latter part of the 16th c.; b. Sandridge, near Dartmouth, England. He undertook, 1585-88, three voyages to the northern seas in search of a northwest passage. In the first voyage, he sailed as far north as 73°, and discovered the strait which bears his name. He afterward made five voyages to the E. Indies, but was killed by pirates on the coast of Malacca 1605. His work, *The World's Hydrographical Description*, appeared 1595. The *Voyages and Works* of D. were issued by the Hakluyt Soc. 1880.

DA'VIS, JOHN, LL.D.: statesman; 1787, Jan. 13—1854, Apr. 19; b. Northborough, Mass.; d. Worcester, Mass. He graduated at Yale 1812, studied law, and settled in Worcester. He was in congress as a whig 1825-33, gov. of Mass. 1833-35; U. S. senator from Mass. 1835-40; again gov. of Mass. 1840-41; again U. S. senator 1845-53. He advocated a protective tariff, opposed slavery and all the compromises for its extension, and protested against the war with Mexico. His popular appellation 'Honest John Davis' showed the respect and confidence gained by his life-long adherence to principle.

DAVIS, JOHN CHANDLER BANCROFT, LL.D.: diplomatist: 1822, Dec. 29—; b. Worcester, Mass.; son of Senator and Gov. John Davis, and nephew of George Bancroft the historian. He graduated at Harvard 1840; studied law; was sec. of the U. S. legation at London 1849-52. He was assist. sec. of state 1869-71; U. S. agent at Geneva in the conference for arbitration 1871-2, and sec. of the commission that negotiated the treaty of Washington; again assist. sec. of state 1873; U. S. minister to Germany 1874-77; and judge of U. S. court of claims 1878-82. Among his publications are: *The Case of the United States . . . at Geneva* (1871); *Treaties of the United States, with Notes* (revised ed. 1873); *Mr. Fish and the Alabama Claims* (1893).

DA'VIS, Sir JOHN FRANCIS, D.C.L., Bart.: 1795-1890, Nov. 13; b. London: long resident in China at Canton and as gov. and commander-in-chief of the colony of Hong-kong. He is one of the most trustworthy authorities on China and the Chinese. In 1845 D. was created a baronet. Among his many valuable works are: *Description of China, China During the War, Chinese Miscellanies*, etc.

DAVIS, JOHN LEE: rear-admiral: 1825, Sep. 3—1889, Mar. 12; b. Carlisle, Sullivan co., Ind. He entered the U. S. navy 1841; was commissioned lieut. 1855; executive officer of the *Water Witch*, 1861; lieut.-commander 1892, July 16. In 1862-3, commanding the gunboat *Wissahickon*, and then the iron-clad *Montauk*, he was in many battles, notably with the forts in Charleston harbor. He commanded the *Sassacus*, 1864-5; was commissioned commander 1866, captain 1873, commodore 1882; commanded the Asiatic squadron 1883-86; rear-admiral 1885; retired 1886.

DAVIS—DAVITS.

DAVIS, NOAH: jurist: 1818, Sept. 10—1902, Mar. 20; b. Haverhill, N. H. In boyhood he removed to Albion, N. Y., and afterward became a lawyer. In 1857 he was appointed a justice of the New York supreme court, and was twice re-elected, resigning for service as congressman 1869-70. He was U. S. dist. atty. for the southern dist. of N. Y., 1870-72; again justice of N. Y. supreme court 1872-87. In 1887 he resumed law practice.

DAVIS, REBECCA (HARDING): author: 1831, June 24, _____; b. Washington, Penn. In her early years she resided in Wheeling, W. Va., and became known as a writer by her *Life in the Iron Mills*, published in the *Atlantic Monthly* 1861; also *A Story of To-day* (republished in a vol. 1861). In 1863 she married L. Clark Davis, of the Philadelphia *Inquirer*, and removed to Philadelphia. In 1869 she was an editorial writer on the New York *Tribune*. Besides many sketches and stories she has published several novels, among which are *Waiting for the Verdict* (1867); *Dallas Galbraith* (1867); *John Andross* (1874); *Silhouettes of American Life* (1892); *Dr. Warrick's Daughters* (1896).

DAVIS, RICHARD HARDING: author and editor: 1864, Apr. 18 _____; b. Philadelphia; son of L. Clark Davis. He studied at Lehigh Univ. and at Johns Hopkins Univ. After working as a reporter on Philadelphia papers, he began in 1888 on the staff of the New York *Evening Sun* as a writer of very acceptable short stories. In 1890, he was made managing editor of *Harper's Weekly*. Among his works are *Gallegher, and Other Stories* (1891); *Stories for Boys* (1891); *Van Bibber and Others* (1892); *The West from a Car Window* (1892); *Princess Aline* (1895).

DAVIS STRAIT: named from the navigator John Davis (q. v.), forms the s. part of that inlet of the Atlantic which washes the w. coast of Greenland. It thus connects Baffin's Bay, and in some sense Hudson's Strait, with the open ocean. At its narrowest point it is 160 m. wide. It is largely frequented by whaling-ships. A constant current, bringing much ice, flows down D. S. from the circumpolar waters. Recently, however, it has been maintained on apparently good grounds, that on the e. side an opposite current, similarly freighted, sweeps round Cape Farewell, on its way from Spitzbergen.

DAVITE, n. *da'vīt* [after Sir H. *Davy*]: a native sulphate of alumina of yellow or greenish-yellow color.

DAVITS, n. plu. *dāv'īts* [Sp. *gaviète*, davit in a long boat: F. *gaviteau*, formerly a piece of wood attached to the cable of an anchor when abandoned, to act as a float to indicate its position, a buoy: F. *davier*, forceps, a davit]: iron beams, or spars, projecting, or which can be made to project like a crane over the side or stern of a vessel, from which a boat is suspended for immediate use in case of need. They are in pairs, one for each end of the boat: see **BOAT-LOWERING APPARATUS**. **DAV'IT**, or **FISH-DAVIT**, n. spar projecting from a ship's bow, used as a crane for hoisting the anchor and keeping it clear of the ship.

DAVITT, *dáv'it*, MICHAEL: founder of the Irish Land League: b. Straide, co. Mayo, Ireland, 1846. His father was a tenant farmer, who, after being evicted from his small holding 1851, emigrated to Haslingden, Lancashire, England. In 1855 D. went to work in a cotton factory, where two years afterward he lost his right arm through a machinery accident. He was then sent to the Wesleyan School at Haslingden, and 1861 obtained employment as asst. letter-carrier and book-keeper in the combined local post-office and printing establishment. In 1866 he joined the Irish revolutionary movement initiated by James Stephens; 1868 became a commercial traveler, dealing extensively in fire-arms; and 1870 was arrested in London, tried on an indictment of treason-felony, and sentenced to 15 years' penal servitude, on the evidence of an informer, whom he swore he had never seen till his trial. After serving 7 years in Clerkenwell, Millbank, Dartmoor, and Portsmouth prisons, he was discharged on a ticket-of-leave. With other amnestied prisoners of the Fenian party he went to Dublin immediately after his discharge, was given a public reception by the citizens, and then made a lecturing tour of the w. of Ireland, England, and Scotland. In 1878 he was examined before the royal commission to inquire into the operations of the penal servitude laws, came to the United States, delivered a course of lectures in the large cities, and raised funds to inaugurate an anti landlord crusade in Ireland. He began this work in his native co. early 1879, and Oct. 21 following with Charles Stewart Parnell and others founded the Irish Land League. A month later he was prosecuted for an alleged seditious speech, but the authorities suddenly abandoned the case. He directed the Land League relief funds during the famine 1879-80; came to the United States and organized an American branch of the league 1880; had his ticket-of-leave revoked for his public utterances on his return; and was confined in Portland prison 1881, Feb.—1882, May. On the day of his release Lord Frederick Cavendish and Thomas Henry Burke were assassinated in Phoenix Park, Dublin, and D. joined Messrs. Parnell and Dillon in issuing a manifesto condemnatory of the murder. He again visited the United States 1882; was again prosecuted and imprisoned, for a speech against landlordism 1883; and having been previously disqualified as member-elect for Meath by a vote of the house of commons, he refused to accept several candidacies offered him from an objection to take the oath of allegiance, 1885. In 1887 he was married to Mary Yore in Oakland, Cal., and was presented with a handsomely furnished residence near Dublin by a general Irish subscription; and 1889 was one of the parties concerned in the Parnellism and Crime excitement (see HOME RULE, in Ireland), and conducted his own defense making a powerful and effective speech. He published *Leaves from a Prison Diary* (1884).



Datura,



Davallia: 1. Part of a frond;
2. Rhizome



White Dead Nettle (*Lamium album*).



Deacon, from Cloisters, Liège, 1460.

DAVOS—DAVY.

DAVOS, *dá'vos* (Romansch *Tavon*): small valley high among the Alps of the Eastern Grisons s.e. of Coire. The height of the village of Davos-Platz is 5,105 ft.; but the valley, inclosed by lofty hills, has become famous as a health-resort in winter, especially for such as suffer from chest disease. The air is still and dry, and throughout the winter there is much bright, warm sunshine. Till lately a mere hamlet; the village has now eight or ten hotels, numerous villas and chalets, several doctors, and daily mails. The inhabitants of the valley, which till 1848 was one of the 26 independent republics of the Grisons, are mostly German Protestants. See *Davos-Platz, a new Alpine Resort*.

DAVOUT, *dá-vó'* (not DAVOUST as commonly written), **LOUIS NICOLAS**: French marshal: 1770, May 10—1823, June 1; b. Annoux, in the old province of Burgundy. He was educated with Bonaparte at the military school of Brienne; and in 1785, became sub-lieut. in a cavalry regiment. During the revolutionary wars, he rose to the rank of general. He accompanied Bonaparte to the East, where he mainly contributed to the victory at Aboukir, and otherwise distinguished himself both in Upper and Lower Egypt. On his return to France he was named gen. of division 1800, commander-in-chief of the consular grenadier guards 1801, and marshal of the empire 1804. In the campaigns of 1805, 6, 7, he bore a brilliant part in the great victories at Ulm, Austerlitz, Jena, Auerstadt, Eylau, and Friedland. In reward of his bravery, Bonaparte created him Duke of Auerstadt (1808, Jul. 2). On the renewal of the war with Austria 1809, D. was created Prince of Eckmühl for his services at the battle of Eckmühl. At Wagram, he performed prodigies of valor. Appointed gov. of Poland, he ruled that country in a spirit of the harshest despotism, and provoked the reproaches of the emperor, but, nevertheless, did not change his system. In the Russian campaign of 1812, he gathered fresh laurels on the fields of Mohilow and Borodino. After the retreat from Moscow, D. became gov. gen. of the Hanse towns, and established himself at Hamburg, where he gallantly maintained himself till the first restoration of the Bourbons. On the return of Bonaparte from Elba, D. was appointed war-minister, and in this office showed a remarkable genius for rapid organization of troops and supplies. After the battle of Waterloo, he received the command of the relics of the French army under the walls of Paris. He would have continued the contest, had he not been ordered by the provisional government in the capital to conclude a military convention with the allies. In 1819, he was made a peer of France. Firmness of character and dauntless courage were D.'s leading characteristics; but his military severities were often even cruel, while his rapacity was akin to barbarism.

DAVY, *dá'ví*, **Sir HUMPHRY**: one of the greatest of chemists: 1778, Dec. 17—1829, May 29; b. Penzance, in Cornwall, England, where his father was a carver in wood. At the school of Truro, where he was educated until the age of 15, he showed little relish for classical learning, but was

distinguished for a highly retentive memory and a passion for poetry, which never forsook him. Another prominent trait of his character was equally early developed; as a child, he would angle even in the gutters of the streets; and only two years before his death, after his health had given way, he published his interesting volume, *Salmonia, or Days of Fly-Fishing*. Soon after leaving school, he became apprentice to a surgeon and apothecary in Penzance. He at the same time entered upon a course of study almost universal. 'Speculations on religion and politics, on metaphysics and morals, are placed in his note-books in juxtaposition with stanzas of poetry and fragments of romance.' A system of mathematical study, skeptical philosophy, Scotch metaphysics and German transcendentalism, successively engaged his attention. The study of natural philosophy brought him nearer to that department which was to be his own; but it was not till he had reached his 19th year, that he entered seriously upon the study of chemistry. He now made the acquaintance of Dr. Beddoes, who had established a Pneumatic Institution at Clifton, and who took him as his assistant. Here D. carried on a course of experiments on the respiration of different gases, in which he had more than once nearly sacrificed his life. He thus discovered the singular exhilarating effect of nitrous oxide when breathed, and the account which he published established his reputation, and led to his appointment at the age of 22 as lecturer to the Royal Institution of London. He delivered his first lecture 1801; and his eloquence, and the novelty and variety of his experiments, soon attracted crowded and brilliant audiences. In 1803, he began researches connected with agriculture, on which he delivered a course of lectures. These were published 1813, under the title of *Elements of Agricultural Chemistry*, and form an era in that science. The discoveries, however, on which chiefly D.'s fame as a chemist rests, took their origin in the views which he developed 1806, in his Bakerian lecture, *On some Chemical Agencies of Electricity*. This essay was universally regarded as one of the most valuable contributions ever made to chemical science, and obtained the prize of the French Institute. Following out his principle, he was led to the grand discovery, that the alkalies and earths are compound substances formed by oxygen united with metallic bases. It was potash that he first succeeded in decomposing, 1807, Oct. 8. When he first saw the globules of the new metal, *potassium*, his delight is said to have been so ecstatic that it required some time for him to compose himself to continue the experiment. He next decomposed soda and the alkaline earths, baryta, strontia, lime, and magnesia; and discovered the new metals, *sodium*, *barium*, *strontium*, *calcium*, and *magnesium*. With regard to the earths proper, he succeeded in proving that they consist of bases united to oxygen. It was reserved for Wöhler and others to exhibit the bases by themselves.

In 1812, D. was knighted, married a lady of considerable wealth, and resigned the chemical chair of the Royal Institution. That he might investigate his new theory of

DAVY JONES'S LOCKER—DAW.

volcanic action, he received permission from the French govt.—though Britain and France were then at war—to visit the continent, and was received with the greatest distinction by the scientific men of France. Returning to England 1815, he entered on the investigation of the nature of fire-damp, the cause of explosions in coal-mines. This resulted in the invention of the safety-lamp (q. v.)—one of the most valuable presents of science to humanity. Though the value of the invention was everywhere acknowledged, the only national reward was a baronetcy after a lapse of three years. This has been contrasted with the pension of £1,200 a year bestowed by the same government on Sir William Congreve for the invention of his rocket. On the death of Sir Joseph Banks, 1820, Sir Humphry D. was elected pres. of the Royal Soc. His attention was shortly afterward called to the preservation of the copper sheathing of vessels from corrosion by the action of sea-water. This he effected by altering the electric condition of the copper by means of bands of zinc; but the bottoms of the vessels became so foul from the adhesion of weeds, shells, etc., that the plan had to be abandoned.

Early in 1825, he had begun to complain of the loss of strength, and, in 1826, a paralytic attack affected his right side. He made two journeys to the continent for the recovery of his health, but died at Geneva, at the early age of 51. The Genevese government evinced their respect by a public funeral. So widely spread was the reputation of Sir Humphry D., that he was a member of almost all the scientific institutions in the world. Cuvier, in his *Eloge*, says: 'Mr. Davy, not yet 52 years of age, occupied, in the opinion of all that could judge of such labors, the first rank among the chemists of this or of any other age.' Besides the works already mentioned, and a great number of contributions to the *Philosophical Transactions*, he published *Elements of Chemical Philosophy* (Lond. 1812); and *Consolations in Travel, or the Last Days of a Philosopher* (3d ed. Lond. 1831), appeared after his death. See *Memoirs of the Life of Sir Humphry D.*, by his brother (Lond. 1836, 2 vols.); and *The Life of Sir Humphry D.*, by Dr. Paris (Lond. 1831).

DAVY JONES'S LOCKER: the bottom of the sea; in *the language of seamen*, applied to the abode of the dead—a supposed corruption of *Jonah*, who was thrown into the sea, and *locker*, which see.

DAVY-LAMP, n. *dā'vī-lāmp*: a form of lamp whose light is surrounded by fine wire gauze, by which explosive gases are excluded, invented by Sir Humphry Davy, used in workings subject to explosions of fire-damp; called also *Davy's Safety-lamp*: see **SAFETY-LAMP**.

DAW, v. *daw* [Swiss, *dähi*; O.H.G. *tāha*; Bav. *dahel*, a daw]: a bird of the crow kind; the jackdaw. **DAW'ISH**, a. like a daw. See **JACK-DAW**.

DAW, v. *daw* [see **DAWN**]: in *Scot.* and *OE.*, to dawn. **DAW'ING**, imp.: N. daybreak. **DAWED**, pp. *dawed*.

DAWAL'LA (*Hypophthalmus dawalla*): fish of the family *Siluridae*, found in the rivers of Guiana, and esteemed for the delicacy of its flesh. It is sometimes two ft. and a half long, and has a snout somewhat like that of a pike, but the teeth are very minute. The skin is destitute of scales, and the colors have that brightness so often seen in tropical fishes, green, brown, and carmine. The D. has become shy in the waters of the more populous and long-settled parts of Guiana, although easily captured in more remote regions.

DAWDLE, v. *daw'dl* [F. *dada*, a hobby-horse: Scot. *dawdle*, to walk unsteadily like a child: Gael. *dabhdail*, to saunter, to loiter]: to do a thing in a purposeless manner like a child, and slowly; to trifle and waste time. DAW'DLING, imp. DAWDLED, pp. *-dld*. DAW'DLER, n. *-dlér*, a trifler; one who lingers.

DAWISON, *dá've-son*, BOGUMIL: 1818, May 15—1872, Feb. 2; b. Warsaw, Poland; actor. He made his first appearance on the stage in his native city 1837; became connected with the Thalia Theatre in Hamburg 1847; was leading actor at the Royal Theatre in Dresden 1852-66; and made a professional tour of the United States 1866-68. His specialties were the chief characters in the dramas of Shakespeare, Goethe, and Schiller. He became insane on his return to Europe.

DAWK, n. *dawk* [Hind. *dák*]: in *India*, a method of travelling; a letter or packet post; a parcel delivery. TANGA DAWK [Hind. *tanga*, a small two-wheeled car], or DAWK GAREE [Skr. *gari*, a carriage or cart]: a mail-cart.—Travelling by dawk (or dak) consists in posting by palanquin from station to station, or for any distance. The traveller must first purchase a strong palanquin, which he can have for from 40 to 100 rupees (\$20 to \$50), but which he can always dispose of when his journey ends, and generally at a profit. His clothes, with whatever articles he may not immediately need, are carried in tin-boxes or wicker-baskets called *pettarahs*, by separate bearers, who precede or accompany the palanquin; whatever he considers necessary, however, he keeps beside himself inside. At all the stages, 9 to 11 miles apart, there are relays of bearers, previously provided by the postmaster, the usual number for one palanquin being 11. All arrangements as to cost are made with the postmaster of each presidency before starting, but the traveller is also expected to give some small sum to his bearers at the end of each stage: eight annas (abt. 25 cents) among the entire set of bearers is as much as is expected in the way of gratuity. The Horse-dawk,—a kind of carriage with seats for four, and capable of being used as a bed in which two can sleep, the baggage being conveyed on the top,—set on wheels, and drawn by horses, is in use on the great trunk road from Calcutta to the upper provinces, but has not been established throughout the country.

DAW'LEY MAG'NA: town in Shropshire, England. It has a church of the establishment, and seven dissenting chapels. The people are employed chiefly in blast-furnaces,

DAWLISH—DAY.

collieries, and iron-mills. Pop. (1861) 6,365; (1871) 11,254; (1891) 7,183.

DAWLISH: flourishing and picturesque watering-place, on the s. coast of Devonshire, 12 m. s. of Exeter. It lies in a valley lying e. and w. between the mouths of the Exe and Teign. It has recently built public baths. Pop. (1881) 3,997; (1891) 4,210.

DAWN, n. *dawn* [Icel. *dagan*, dawn; *dagur*, day: AS. *dagian*, to become day]: the break of day; the first appearance of light in the morning; first opening or expansion: rise; beginning; first appearance: V. to begin to grow light; to begin to open or expand; to glimmer obscurely. **DAWNING**, imp.: N. first appearance of anything, as the day, reason, intellectual powers. **DAWNED**, pp. *dawnd*. See **TWILIGHT**.

DAWSON, or **DAWSON CITY**: see **KLONDIKE**.

DAX, *dâks*: town of France, dept. of Landes, pleasantly situated on the left bank of the Adour, 20 m. n.e. of Bayonne. Among its principal buildings are the high church, once a cathedral, and the bishop's palace. It is an intermediate depot for goods forwarded to Spain, and it is notable for its hot saline springs, the temperature of which at the source is 158° F. The water, which is medicinal and nearly tasteless, was used for bathing purposes by the Romans, who conferred upon the springs the name Aquæ Augustæ Tarbellicæ. Pop. (1891) 10,858.

DAY, n. *dā* [in the middle ages the word *day* was applied to the day appointed for hearing a cause, or for the meeting of an assembly: Dut. *daghen*, to appoint a day for a certain purpose: old Sw. *dag*, the time appointed for a convention: AS. *dæg*; Ger. *tag*; Icel. *dagr*, a day: Skr. *daha*, light or redness in the sky]: one complete revolution of the earth on its axis; the time from midnight to midnight; a period of twenty-four hours; in *common language*, the time from sunrise to sunset, as opposed to the darkness or night; publicity; light; any specified time; age, as in these days; time. **DAI'LY**, a. *-lī*, happening or issued every day. **AD.** every day; day by day: N. a journal or newspaper published every day except Sunday. **DAILIES**, n. plu. *dā'li-z*. **DAYSMAN**, n. *dāz'mān* [OE. *day*, time, judgment]: the judge appointed to decide between parties at a judicial hearing. **DAY-BLINDNESS**, *nyctalopia*, a defect of sight, owing to which objects can be seen distinctly only by night, and not in the daytime. **DAY-BOOK**, a book containing entries of transactions just as they occur every day. **DAY-BREAK**, n. dawn. **DAY-DREAM**, a reverie; waking visions. **DAY-LABOR**, labor performed or hired by the day. **DAY-LABORER**, one who works by the day. **DAYLIGHT**, the light of the sun as opposed to that of the moon. **DAY-SIGHT**, *hemeralopia*, a defect of the sight, owing to which objects can be seen distinctly only in the daylight, and but dimly or confusedly in the dusk. **DAY-STAR**, morning star; in *Scrip.*, the divine revelation; the light of the Gospel. **DAY-WOMAN**, in *OE.*, a dairywoman; a dairymaid. **DAY BY DAY**, every day. **DAY OF GRACE**, the time that mercy

DAY.

is offered. DAYS OF GRACE, the three days allowed for the payment of a bill of exchange after its date has expired. DAYSPRING, n. the dawn of light; sun-rising. DAY-TICKET, in a *railway* or *steamboat*, a ticket to enable a passenger to return on the same day. DAY'S JOURNEY, in the *East*, a mode of computing the distance that can easily be travelled over in a day. DAYTIME, the time during which the sun gives light to the earth. FROM DAY TO DAY, without certainty or continuance. TO-DAY, on this day. ASTRONOMICAL DAY, the day which begins at noon and ends at noon. CIVIL DAY, the mean solar day of twenty-four hours, being that in ordinary use, and divided into two series, each from *one to twelve*. JEWISH DAY, the period from sunset to sunset. SIDEREAL DAY, the day measured by the stars, being the interval between two successive transits of a star, for convenience the first point of Aries, over the same meridian. SOLAR DAY, the day measured by the sun, being the interval between two successive transits of the sun's centre over the same meridian. MEAN SOLAR DAY, the mean or average of all the apparent solar days in the year. TO WIN THE DAY, to gain the victory; to be successful. *Note.*—DAY may have been nothing more, primarily, than the name of the 'sun-god,' naturally extended to the space of time during which he exerted his power, and could be worshipped; hence identical with the name for a god common in the Aryan languages: we have Gr. *Theos*, L. *Deus*, Gael. *Dia*, F. *Dieu*, It. *Deos*, Sp. *Dios*, God: L. *dies*, day: also *divum*, the sky, from the root *div*, to shine. See Dr. C. Mackay.

DAY: originally the period during which it is light, in opposition to the period of darkness or night; time from sunrise to sunset. It now denotes also (and usually) a complete alternation of light and darkness, occupying in most parts of the earth 24 hours. It is the earth's rotation that causes the vicissitude of day and night. The earth being a globe, only one-half of it can be in the sun's light at once; to that half it is day, while the other half is in shadow, or in night. But by the earth's rotation, the several portions of the surface have each their turn of light and of darkness. This happens because the position of the earth is such that the equator is on the whole presented towards the sun; had either pole been toward the sun, that hemisphere would have revolved in continual light, the other in continual darkness.

One complete rotation of the earth does not make a day, in the usual sense. If the time is noted when a particular fixed star is exactly south or on the meridian, when the same star comes again to the meridian the next day, the earth has made exactly one rotation, and the time that has elapsed is called a *sidereal day*. This portion of time is always of the same length; for the motion of the earth on its axis is strictly uniform, and is, in fact, the only strictly uniform motion that nature presents. Sidereal time, or star-time, from its unvarying uniformity, is much used by astronomers. But the passage of a star across the meridian is not a conspicuous enough event for

regulating the movements of men in general. It is not a complete rotation of the earth, but a complete alternation of light and darkness, that constitutes their day. This, which is called the *civil* or the *solar* day, is measured between two meridian passages of the sun, and is about four minutes longer than the sidereal day. The cause of the greater length is this: When the earth has made one complete turn, so as to bring the meridian of the place to the same position among the fixed stars as when it was noon the day before, the sun has in the mean time (apparently) moved eastward nearly one degree among the stars, and it takes the earth about four minutes more to move round so as to overtake him. If this eastward motion of the sun were uniform, the length of the solar day would be as simple and as easily determined as that of the sidereal. But the ecliptic or sun's path crosses the earth's equator, and is therefore more oblique to the direction of the earth's rotation at one time than another; and besides, as the earth moves in her orbit with varying speed, the rate of the sun's apparent motion in the ecliptic, which is caused by that of the earth, must also vary. The consequence is, that the length of the solar day is constantly fluctuating; and to get a fixed measure of solar time, astronomers have to imagine a sun moving uniformly in the celestial equator, and completing its circuit in the same time as the real sun. The time marked by this imaginary sun is called *mean solar time*; when the imaginary sun is on the meridian, it is *mean noon*; when the real sun is on the meridian, it is *apparent noon*. It is obvious that a sun-dial must show apparent time, while clocks and watches keep mean time. Only in four days of the year do these two kinds of time coincide. In the intervals, the sun is always either too fast or too slow; and the difference is called *the equation of time*, because, when added to or subtracted from apparent time, it makes it equal to mean time. The mean solar day is divided into 24 hours, the hours into minutes and seconds. A sidereal day, we have seen, is shorter; its exact length is 23 hours, 56 minutes, 4 seconds of mean solar or common time. Astronomers divide the sidereal day also into 24 hours, which are of course shorter than common hours. In the course of a civil year of 365 days, the earth turns on its axis 366 times, or there are 366 sidereal days. Astronomers reckon the day as beginning at noon, and count the hours from 1 to 24. The civil day begins at midnight, and the hours are counted in two divisions of twelve each. The ecclesiastical day, like the Jewish day, was reckoned from sunset to sunset.

A *day, in law*, includes the whole 24 hours, without any reference to the season of the year, or the amount of light or darkness. Where there is no qualifying stipulation, therefore, the obligation to pay on a certain day is discharged if the money be paid before 12 o'clock at night, which is counted as the commencement of the following day. On the same principle, if anything is to be done within a certain number of days from or after the doing of a certain other thing, the day on which the first act or occurrence takes place is excluded. If A binds himself to

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pay money 10 days after B's death, and B dies on the 1st, the money will not be due till the night of the 11th at 12 o'clock. Unless the contrary be absolutely necessary, for the purposes of justice, the law excludes fractional portions of time; thus, half a year consists of 182 days, and a quarter of a year of 91..

A *lawful day* is a day on which there is no legal impediment to the execution of a writ—i.e., all days except Sundays and certain holidays appointed by government. Criminal warrants are an exception to this rule, and may be both granted and executed on Sundays and holidays. All contracts made by persons in their ordinary calling on a Sunday are void: for exceptions to this rule, see LORD'S DAY.

Days of Grace.—The time at which a bill is actually *due*, or *at maturity*, is in general three days after the time expressed on the face of it. The three additional days generally allowed by the custom of merchants, and which the laws recognize and protect, are called days of grace. If the third day of grace fall on a Sunday, the bill is payable the day before. If it fall on any of the bank holidays, the bill is payable the day after: see BILL.

DAY, *dā*, HORACE H.: 1813–1878, Aug. 23: manufacturer. He obtained a license from Charles Goodyear for manufacturing shirred rubber goods, and was subsequently sued by Mr. Goodyear for infringing on his patent rights in woven goods. A cross-suit was instituted, and the two manufacturers were involved in costly litigation many years. One of their suits, tried at Trenton, N. J., is memorable from the facts that Daniel Webster appeared as counsel for Mr. Goodyear and Rufus Choate for Mr. D., that Mr. Goodyear won the case, and that Mr. D. surrendered his license, factory, and machinery, and retired from the business on the receipt of \$350,000 and \$21,000 paid as counsel fees. In 1856 he organized a company to utilize the water power of Niagara Falls for manufacturing purposes, and spent over \$700,000 in building a canal and providing a harbor at Grass Island; but all his improvements were sold under foreclosure of mortgages 1877. He subsequently established a large rubber factory at New Brunswick, N. J., sold his interest for \$40,000, and retired to Manchester, N. H., where he died.

DAY, JEREMIAH, D.D., LL.D.: 1773, Aug. 3—1867, Aug. 23; b. New Preston, Conn.: educator. He graduated at Yale College 1795, spent two years as tutor at Williams College, studied theology, was elected prof. of mathematics and natural philosophy at Yale 1801, and, succeeding Dr. Dwight, was pres. 1817–46. His mathematical publications include an *Algebra* (1814), *Mensuration of Superficies and Solids* (1814), *Plane Trigonometry* (1815), and *Navigation and Surveying* (1817); other publications are *An Examination of President Edwards's Inquiry as to the Freedom of the Will* (1814), and *An Inquiry on the Self-determining Power of the Will, or Contingent Volition* (1838. 49). He received the degree LL.D. from Middlebury Univ., 1817, and D.D. from Union College 1818 and Harvard Univ., 1831.

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DAY, THOMAS: 1748, June 22—1789, Sep. 28; b. London: political writer and poet. He studied at Oxford. The American war of independence, with which he strongly sympathized, seems to have roused his poetical energies. In 1773, he published *The Dying Negro*; in 1776, *The Devoted Legions*; and in 1777, *The Desolation of America*. But he is remembered chiefly as the author of the famous *History of Sandford and Merton*, as also the *History of Little Jack*.

DAY'AKS: see BORNEO: BROOKE, Sir JAMES.

DAY-FLY: see EPHEMERA.

DAY-LILY (*Hemerocallis*): genus of plants of the nat. ord. *Liliaceæ*, having a perianth with bell-shaped limb, and sub-cylindrical tube, and globose seeds with soft *testa*. Several species are cultivated in flower-gardens, especially the fragrant Yellow Day-lily (*H. flava*), native of Hungary,



Day-lily.

Siberia, and the north of China. It has also been recommended to farmers as affording a supply of acceptable green-food to cattle. But *H. fulva*, native of the Levant, produces more abundant foliage, and cattle are equally fond of it. Both species are fibrous-rooted perennials with linear leaves.

DAYS'MAN: formerly in England, and still in some northern counties: arbitrator, umpire, or elected judge. It has its origin in the judicial language of the middle ages, when the word *Day* was specially applied to the day appointed for hearing a cause, or for the meeting of an assembly. A daysman was thus a judge appointed to decide between disagreeing parties at a judicial hearing. The word occurs in Scripture in the sense of umpire, Job

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ix. 33 : where Job sorrowfully says, in reference to his relation to God :

'There is no daysman between us,
That might lay his hand upon us both.'

DAYTON, *da'ton* : city, cap. of Montgomery co., O. ; on the e. bank of the Great Miami river at the mouth of Mad river, and the Miami canal ; 60 m. n.n.e. of Cincinnati, 67 m. w. by s. of Columbus ; lat. $39^{\circ} 44' \text{ n.}$, long. $84^{\circ} 11' \text{ w.}$ It is the fifth city in O. in population and wealth ; was settled 1796, incorporated 1805, and chartered 1841 ; is laid out in streets from 100 to 133 ft. wide, which cross each other at right angles ; is lighted with gas and electricity ; and has 36 macadamized roads with a total length of over 600 m. radiating from it to the suburbs. D. has abundant water-power. Eight railroads have termini here : the Sandusky D. and Cincinnati, Atlantic and Great Western, Cincinnati and D., D. and Western, D. and Union, L. and Xenia, D. and Michigan, and D. and Southwestern. The public buildings include a co. court-house 167 ft. long and 62 ft. wide, built of marble, in the style of the Parthenon, at a cost of \$170,000, a stone jail that cost \$400,000, a public library containing over 5,000 vols., and 5 large market-houses ; the educational buildings include 15 public schools, a high school, Cooper Seminary (Presb.) for Young Ladies, St. Mary's Institute (Rom. Cath.) for Boys, and Deavor's preparatory school for boys ; the charitable institutions are a city orphan asylum, co. almshouse, and state insane asylum. The most noted institution of D. is the National Home for Disabled Soldiers and Sailors, consisting of a cluster of 40 buildings on an elevated tract of 640 acres 4 m. w. of the city. The home is provided with a church of native white limestone, an admirable hospital with accommodations for 300 persons, a dining-hall in which 3,000 persons can be seated at one time, a library with 5,000 vols., music-hall, and billiard and bowling rooms. The grounds are beautifully laid out, and have many natural and artificial attractions. The inmates (1887) numbered 5,000. There are 53 churches in D. : Bap. 10, Meth. Episc. 9, Unit. Brethren, Presb., Luth., 6 each, Rom. Cath. 5, Ref. 3, Disciples 2, Brethren, Christians, Hebrew, Evang. Assoc., Prot. Episc., Unit., Presb., 1 each.

D. has several quarries of excellent white limestone which have furnished material for the annex to the co. court-house, the First and Second Presb. and Grace Meth. Episc. churches, and the finest buildings in that and neighboring cities. The chief industries are manufactories of railroad cars, paper, stoves, and hollow ware ; there are also several cotton, woolen, oil, and flour mills, and machine-shops. In 1900 there were 1,096 manufacturing establishments reported employing \$28,027,518 capital and 16,869 persons, paying \$7,959,792 for wages and \$16,800,911 for materials, and yielding prod. of a combined val. of \$35,697,695. There are 8 banks, 7 national and 1 savings, with a joint capital of \$2,930,000, and 8 ins. companies with a capital of \$1,200,000. The assessed valuation of property was (1878) \$20,000,000 ; (1903) \$45,977,230. Pop. (1840) 6,067 ;

D'AZARA—DEACON.

(1850) 10,976; (1860) 20,081; (1870) 30,473; (1880) 38,678; (1900) 85,333.

D'AZARA, *dǎ-thá'rǎ*, Don FELIX: naturalist: b. Barbuñales, Aragon, 1746, May 18; d. after 1802. He was educated at the Univ. of Huesca, obtained a commission in the Spanish army, was severely wounded in the attack upon Algiers; and 1781 was appointed one of the commissioners for fixing the boundaries of the Spanish and Portuguese possessions in S. America, in which regions he spent nearly 20 years, applying himself also in the geography, ethnology, and natural history of those lands. Returning to Spain, 1801, he published an account of his travels; also an important work on quadrupeds and bipeds, *Notes on the Natural History of Paraguay and La Plata* (Madrid 1802, *et seq.*).

DAZE, v. *dāz* [Dut. *daesen*, to lose one's wits in fright: Icel. *das*, a faint, exhaustion: Sw. *dasa*, to lie idle: Bav. *dosen*, to keep still (see DOZE)]: to stun; to stupefy with a blow, or with excess of light, fear, cold, etc.: N. among *miners*, a glittering stone. **DA'ZING**, imp. **DAZED**, pp. *dāzd*. **DAZZLE**, v. *dǎz'l*, to overpower with light; to strike or surprise with brilliancy or splendor; to be overpowered with light. **DAZ'ZLING**, imp. **DAZZLED**, pp. *dǎz'ld*. **DAZ'ZLINGLY**, ad. *-lǐng-lǐ*. **DAZZLEMENT**, n. *dǎz'l-měnt*, the state of being dazzled; the act of.

DE, pref. [L.]: a moving down or from; separation or taking away. **DE** often expresses a negative, and sometimes only augments the sense. **DE** has the force of **DIS**, asunder, as in *derange*, *départ*. **DE** is often used for *dis* in words derived from the French.

DEACON, n. *dē'kn* [L. *diacōnus*; Gr. *diakōnos*, a minister or servant]: one of the lower grade of ministers or servants in the church. **DEACONSHIP**, n. *dē'kn-shĭp*, or **DEA'CONRY**, n. *-rĭ*, the office of a deacon. Deacons in apostolic times, properly those officers of a Christian congregation or church that had the charge of collecting and distributing the alms, and of taking care of the poor and the sick. The office, therefore, was not of the kind now known as clerical, though the term deacon or servant, like that of *minister*, which has the same meaning, might be at times applied to teachers or preachers. The limitations of the office of deacon to the functions above specified continued to be recognized as late as the council of Trullanam, 692. The Church of Jerusalem chose at first seven deacons, individuals of whom, no doubt, as Philip, also taught and baptized, but only because they were evangelists as well as deacons: indeed from the New Testament record there seems to have been no strict limitation of teaching, preaching, and baptizing, to an order of clerical officials; though doubtless these functions were exercised, with due regard to order, only under the charge of the pastor or bishop in each local church, where such churches existed. The number seven continued to be adhered to in all churches. During the 2d and 3d c., the duties falling to the deacons had considerably increased; and since as confidential at-

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tendants and helpers of the bishops (at that period exercising a diocesan authority over several churches) the deacons had risen into consequence, it became necessary to divide the various functions among an archdeacon, deacons, and subdeacons. Deacons might now dispense the bread and wine at the communion, but not consecrate them. They had to receive the offerings and presents for the bishop, to keep the sacred vessels, to chant the introductory formulas of public worship; and to take the oversight of the morals of the congregation; and they were allowed, in many cases, with the leave of the bishop, to preach and baptize, and receive penitents into the communion of the church. At an early period, the offices of archdeacon and deacon were considered to belong to the higher orders of consecration (*ordines majores*); this was not the case with that of subdeacon till after the 12th c. At the consecration of a deacon as one of the lowest order of clergy in the Rom. Cath. Church, the sacred vessels are handed to him as symbols of his office. His peculiar robes are the dalmatica and the stole.

In Prot. churches, the position of deacons varies. In Congl. and some other churches, besides serving at the Lord's Table, have special charge of the poor members of the church. Among Presbyterians, their place is usually supplied by the elders; but in some Presbyterian churches (e.g., the Free Church of Scotland), and many in the United States, the offices of elder and deacon are kept distinct. In some denominations, deacons have charge of the secular affairs of the church. In the Church of England, and the Prot. Episc. Church in the United States, a deacon is a clergyman of the lowest order, receiving a special form of ordination, but differing in effect from a priest in not being allowed to consecrate the elements at the communion, or pronounce the absolution or benediction. For this, as well as for holding in England any benefice or church-perfement, priest's orders are necessary. The office is thus of little importance, except as affording an interval of probation before admission to priest's orders. As in the Rom. Cath. Church, its original function of caring in the name of the whole company of disciples for the poor, the aged, and the sick, has fallen into disuse.

DEACONESSES (*ancillæ, ministræ, viduæ, virgines, episcopæ, presbyteræ*): female ministers or servants of the church or Christian society in the time of the apostles (Rom. xvi. 1). They co-operated with the deacons, showed the women their place in the church-assemblies, assisted at the baptism of persons of their own sex, instructed those who were about to be baptized as to the answers they should give to the baptismal questions, arranged the *agapæ* or love-feasts, and took care of the sick. In the 3d c., it seems to have been also part of their duty to visit all Christian females who were suffering imprisonment, and to be hospitable to such as had come from afar. In very early times, they were consecrated to their office by ordination in the same manner as other ecclesiastical or spiritual personages; later, however, they were inducted into their office by prayer

DEACON OF A TRADE—DEAD.

without the imposition of hands. Until the 4th c., the deaconesses had to be either maidens, or widows who had been only once married, and 60 years of age; but after the council of Chalcedon, the age was fixed at 40. Their assistants were called *sub-deaconesses*. After the 6th c., in the Latin Church, and after the 12th c., in the Greek Church, the office of deaconess was discontinued; though the former has retained the name. In monasteries, for example, the nuns who have the care of the altar are called deaconesses. However, the duties of deaconesses are often performed with great tenderness and assiduity by members of various Rom. Cath. sisterhoods. In the Reformed Church of the Netherlands, also, those elderly females are called D. who take care of lying-in women and of the poor. The advantages resulting to a Christian community from such an order are too obvious to require exposition. It has been a serious misfortune to the church at large, that the office has been allowed to fall into disuse; and the widespread institution at the present day in the Prot. churches of Great Britain and America of Ladies' District-visiting Societies, Dorcas Societies, sisterhoods, etc., is an attempt to practically supplying, to some extent at least, the want of this primitive office. It is encouraging that there is now an evident movement toward the introduction of the order of deaconesses into the Church of England, and into the Prot. Episc. Church in the United States. A few Congl. churches have established the office, though they seem not yet to have systematized its work.

DEA'CON OF A TRADE: in Scotland, the president, for the time being, of an incorporated trade; formerly representing his trade or craft in the town-council. In Edinburgh and Glasgow the deacon-convener of the trades is still a member of the town-council. One of the duties of the office in former times was to essay, or try, the work of apprentices, previous to their admission to the freedom of the trade. See DEAN OF GUILD.

DEAD, a. *děd* [Goth. *dauths*; Icel. *daudr*; Sw. *död*; Ger. *tot*, dead]: deprived of life; deceased; without life; that never had life; senseless; inactive; perfectly still; tasteless; vapid; perfector complete, as a dead shot; wholly under the power of sin: AD. to the last degree; completely: N. the time when all is still and quiet as death, as winter and night. DEADLY, a. *děd'li*, that may occasion death; fatal; destructive: AD. in a manner resembling death; mortally. DEAD'LINESS, n. the quality of being fatal or deadly. DEAD'NESS, n. state of being destitute of life, vigor, or activity. THE DEAD, n. plu. human beings without life; the departed. DEADS, n. plu. *děds*, in *mining*, any vein-stone or mine-stuff that does not contain enough of ore to make it worth removing from the mine; mine waste or rubbish. DEAD-ANGLE, in *mil.*, an angle in a fortification not exposed to any fire at all. DEAD-BEAT, a. quite exhausted; unable to move: N. a worthless fellow who sponges on others. DEAD-CENTRE, one of the two points in the orbit of a crank, in which it is in line with

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the connecting-rod; it is also called dead-point. DEAD-COLOR, in *painting*, a color that has no gloss, or reflecting quality. DEAD-COLORING, the first layers of colors in a picture, bringing out its parts. DEAD-DRUNK, rendered perfectly helpless through strong drink. DEAD-EYES, on a *vessel*, circular flattish wooden blocks, part of a tackle for extending the standing rigging, and for other purposes. DEAD-FLAT, in a *vessel*, one of the mid-ship timbers. DEAD-FREIGHT, compensation paid by one who freights a whole ship to the shipmaster for the space which he fails to occupy. DEAD-HEAD, superfluous length given to gun in casting, afterward sawed off; that piece on a casting which fills the ingate at which the metal entered the mold; a feeding-head or sullage-piece; one who habitually obtains admission to places of entertainment, etc., without payment; one on the free list; a sponger. DEAD-HEAT [*heat*, a warm race without stopping—from Ger. *hetzen*, fury, ardor: Icel. *hita*, boiling]: a race to be run over again by two horses, equal in a previous race, as if dead, or as if it never had taken place. DEAD LANGUAGE, one no longer spoken. DEAD-LATCH, n. a kind of latch whose bolt may be so locked by a detent that it cannot be opened from the inside by the handle or from the outside by the latch-key. The detent is usually capable of locking the bolt in or out, so that the device forms a latch, a dead-lock, or is made inoperative, as desired. DEAD-LETTER, at a post-office, a letter whose owner cannot be found. DEAD-LEVEL, a term applied to a flat country which offers facilities for railway or road making. DEAD-LIFT, or DEAD-WEIGHT, the weight of a lifeless or inactive body; a heavy weight or burden. DEAD-LIFT, in *OE.*, a last extremity; in a great strait or difficulty. DEAD LIGHT, strong wooden shutter for the window of a ship's cabin for protection in storms. DEAD-LOCK, a lock without a spring or latch; counter movements and plans producing an entire stoppage. DEAD-MARCH, a solemn piece of music played on instruments at the interment of the dead, principally of military men. DEAD-NETTLE, a common plant like the nettle, but having no stinging property; the *Lanġūm album*, ord. *Lābġā'te*. DEAD-POINT: see DEAD CENTRE, above. DEAD-RECKONING, calculation of a ship's place at sea, independently of celestial observations. The chief elements from which the reckoning is made are: The point of *departure*, i.e., the latitude and longitude sailed from, or last determined; the *course* or direction sailed in (ascertained by the compass); the rate of sailing—measured from time to time by the Log (q.v.); and the time elapsed. The various principles or methods followed in arriving at the reckoning from these data are known as *plain-sailing*, *middle-latitude sailing*, etc.: see SAILINGS. But the data themselves are liable to numerous uncertainties and errors, owing to currents, leeway (q.v.), fluctuations of the wind, changes in the declination of the compass, etc.; therefore the results arrived at by the D. have to be corrected as often as is possible by observation of the heavenly bodies: see NAVIGATION: LATITUDE: LONGITUDE. DEAD-RISING, that part of a ship's bottom where

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the floor-timbers terminate, and the lower futtocks or foot-hooks begin. DEAD ROPES, such ropes as do not run in blocks. DEAD-SET, a determined resolution to bring matters to a crisis—in allusion to the action of a setter dog. DEAD-SHOT, a marksman who seldom misses his aim. DEAD-WALL, one that has no opening. DEAD-WATER, the water that closes in after a ship's stern when sailing. DEAD-TOP, a disease of young trees. DEAD-WIND, wind blowing directly against a ship's course. DEAD-WOOD, blocks of timber laid upon the keel of a vessel, especially fore and aft, fastened to the keel with iron spikes, to give solidity to the ends of the ship. DEADLY NIGHTSHADE, a highly poisonous plant, possessing narcotic properties in all its parts, the *Atrōpā Bellādōnna*, ord. *Solanācēæ*: see ATROPIA: BELLADONNA.—DEADEN, v. *děd'n*, to lessen force, vigor, or sensation; to blunt; to retard; to render spiritless; to smother, as sound; to cloud or obscure. DEAD'ENING, imp. *-ning*. DEADENED, pp. *děd'nd*. DEAD AS A DOOR NAIL, the knob of a door on which the knocker strikes, which could not but be dead. DEAD OF NIGHT, in the perfect stillness of night far advanced. DEAD OF WINTER, the very dullest and stormiest part of winter.—SYN. of 'dead, a.': lifeless; inanimate; extinct; dull; gloomy; unproductive; unprofitable; monotonous; unvaried; sure.

DEAD, BURNING OF THE: see BURIAL: CREMATION.

DEAD, JUDGMENT OF THE: doctrine, and custom, in anc. Egypt. The papyrus rolls found with the Egyptian mummies contain a description of the fate of the departed subsequent to their death. Even in the least complete specimens, the most important scene is seldom wanting—that, namely, in which the dead is led by the hand of Ma, the goddess of Truth and Justice, into the judgment-hall of the nether world, before Osiris, the judge of the dead. The god's throne faces the entrance. In the middle of the hall stands a huge balance, with an ostrich feather, the symbol of Truth, in one scale, and a vessel in the form of a human heart in the other. A female hippopotamus appears as accuser. Above sit forty-two gods, each of whom specially presides over one of the forty-two sins from which the deceased has to clear himself. The gods Horus and Anubis attend to the balance, while the ibis-headed Thoth-Hermes, the justifier, writes down the result, which is naturally assumed to be favorable. Such is the judgment of the dead in the Egyptian Hades. But, according to Diodorus, a human judgment had already been passed upon the departed previous to burial. Before the sarcophagus was launched upon the holy lake over which it was to be ferried by Charon, the friends and relatives of the dead, together with forty-two judges, assembled on the shore. Each was permitted to bring an accusation against him, and if it were proved, the solemnities of burial were withheld. A false accuser, however, was severely punished. Even unjust and unpopular monarchs were deprived of sepulture by this process.

DEAD, PRAYING FOR THE: see PRAYER.

DEADENING OF NOISE—DEAD-LETTER OFFICE.

DEADENING OF NOISE IN MACHINERY: effected by use of rubber cushions under legs of work-benches, etc.; also, by resting each leg or support on a block in the middle of a small keg—fine sand or sawdust being filled in below, around, and above the block and leg. The noise and vibration of strokes even on an anvil may thus be greatly reduced.

DEAD-LETTER OFFICE: branch of the U. S. post-office dept. at Washington, where unclaimed, misdirected, and other non-deliverable mail matter is collected from all post-offices in the country for disposition. The period of 30 days during which such letters may remain in any post-office is established by law, as well as the method of sending them to the D.L.O. A list of letters unclaimed in any office within a given number of days is exposed where all can see it, and in many cities, published in the newspapers. At the end of 30 days all such letters, together with those addressed to a known fraudulent institution or firm, or on which the address cannot be readily deciphered, or from which the name of the out-of-town office of delivery has been omitted, are sent to the D.L.O., and there opened and examined. If they contain valuable inclosures they are registered; if the name and address of the party for whom they are intended appears within they are forwarded direct; if only the name and address of the sender can be ascertained the dept. makes the return to him; and if there are no clues by which the sender or intended recipient can be found, the postmaster gen., has authority to dispose of the matter as he may deem best. Formerly letters on which postage was insufficiently prepaid were also forwarded to the D.L.O., and the persons addressed notified that the letters were held for insufficient postage and would be forwarded on the receipt of the shortage; but the law in this respect has been so modified that an insufficiently prepaid letter will be forwarded to its destination and delivered to the party addressed on the payment of the shortage. The postal laws are exceedingly liberal to the public. Any person temporarily leaving home or permanently removing to another one, whether within the same town or city, the same state, another state, or a foreign country, may have his letters forwarded without additional charge by leaving his new address with the postmaster of his former place of residence. As a rule the failure of a letter in prompt delivery is due either to the carelessness of the sender in addressing it, or to the neglect of the party addressed in not notifying his postmaster of a change of residence. Money and postage stamps inclosed in a non-deliverable letter are credited to the post-office dept.; bank checks and money orders not negotiable are frequently held several years for reclamation. Considering the vast quantity of mail matter handled daily in the United States and the carelessness of people, it is surprising that so small a proportion of letters goes astray and becomes 'dead.' During the fiscal year 1893-4, the D.L.O. found and delivered to the proper parties letters containing over \$28,000 in money and over \$966,000 in checks, drafts, and money orders; total number of letters returned to owners, 2,075,098; over 600,000 foreign letters were returned to the various offices of original reception. The number of

DEAD NETTLE—DEAD SEA.

letters returned as unmailable was 482,696. The total number of letters, etc., handled was about 29,000 less than in the preceding year. The bulk of the foreign matter that goes astray in the United States consists of letters addressed to newly-arrived immigrants ignorant of the rules of the post-office dept., many of whom shift from place to place before making a settlement and nowhere leave a clew of their destination.

DEAD NETTLE (*Lamium*): genus of plants of the nat. ord. *Labiatae*, having a 5-toothed calyx and a 2-lipped corolla, the upper lip arched, the lower lip trifid. The name D. N.—popularly in parts of England and Scotland, *Dee Nettle*—is also often extended to the genera *Galeopsis* and *Galeobdolon*, very similar to *Lamium*, the first of which is sometimes distinguished by botanists as Hemp-nettle, the second as Weasel-snout. *Lamium purpureum*, *L. incisum*, *L. album*, and *Galeopsis tetrahit*, are common weeds. It is probably to *G. tetrahit*, or *G. versicolor* (much larger plants, and rough with strong hairs), rather than to any species of *Lamium*, that the popular belief relates of a dangerous irritative power in the hairs of the D. N., if handled when dried as in haymaking. They do not seem to possess any poisonous property, but the subject may be deserving of attention.

DEAD SEA (ancient *Lacus Asphaltites*), called by the Arabs Bahr Loot, or *Sea of Lot*: in the south-east of Palestine; lat. $31^{\circ} 10'$ — $31^{\circ} 47'$ n., central between long. 35° and 36° e. It is about 40 m. long, with an average breadth of 9 m. The depth of the D. S. varies considerably: soundings at the north have given about 220 fathoms; this depth, however, gradually lessens toward the southern extremity, where the water is shallow. Its surface, lower than that of any other known, is 1,312 ft. below the level of the Mediterranean. The shape is that of an elongated oval, interrupted by a promontory which projects from the south-east. The D. S. is fed by the Jordan from the n., and by many other streams, but has no apparent outlet, its superfluous water being supposed to be entirely carried off by evaporation. Along the e. and w. borders of the D. S., there are lines of bold, and in some cases perpendicular, cliffs, rising in general more than 1,000 ft. on the w., and 2,000 ft. on the e. These cliffs are chiefly limestone, and are destitute of vegetation save on the e. side, where there are ravines, traversed by fresh-water springs. The n. shores of the lake form an extensive and desolate muddy flat, marked by the blackened trunks and branches of trees, strewn about, and incrustated with salt, as everything is that is exposed to the spray of the Dead Sea. The s. shore is low, level, and marshy, and in the highest degree desolate and dreary; the air is choking, and no living thing to be seen. On this shore is the remarkable mass of rock called Usdum (Sodom). It is a narrow rugged ridge of hill, extending 5 m. n.w., and consisting of rock-salt. Large blocks have broken off from this hill, and lie strewn in all directions along the shore, adding to its dreary and deathlike aspect. To the n. of Usdum, and at no great distance, is the supposed site of the ancient Sodom. Although the hills surrounding the D. S.

DEAD'S PART—DEAF.

are principally stratified rock, igneous rocks also are seen; there are also quantities of post-tertiary lava, pumice-stone, warm springs, sulphur, and volcanic slag, clearly proving the presence here of volcanic agencies at some period. The neighborhood of the D. S. is frequently visited by earthquakes, on which occasions it has been observed that this lake casts up to its surface large masses of asphaltum, of which substance chiefly the cups, crosses, and other ornaments made and sold to pilgrims at Jerusalem consist. The long-entertained belief, that the exhalations from this lake were fatal, is not founded upon fact; birds have been seen flying over, and even sitting upon, its surface. Within the thickets of tamarisk and oleander, which here and there may be seen upon its brink, the birds sing as sweetly as in more highly favored quarters. A curious plant grows on the borders of the D. S., the *Asclepias procera*, which yields fruit called the Apples of Sodom, beautiful on the outside, but bitter to the taste, and when mature, filled with fibre and dust.

The *water* of the D. S. is characterized by the presence of a large quantity of magnesian and soda salts. Its specific gravity ranges from 1,172 to 1,227 (pure water being 1,000). The proportion of saline matter is so great, that while sea-water contains only 30 parts of salts in the 1,000 parts, the water of the D. S. contains about 250, or eight times more than that of the ocean. The saltiness of the D. S. has been explained in several ways; but there is no need to advert to more than one. It is a feature of all lakes or collections of water without any outflow, that the water acquires an infusion of salt, its feeders constantly bringing in this material, while none can go off by evaporation. It may, moreover, be remarked that, if the D. S. was formerly at a higher level, and brought down to its present pitch by evaporation, a deposit of salt, such as we see on its banks, would be the natural consequence. Considerable deposits of common salt, sulphate of lime, and carbonate of lime have been formed along the bottom of the lake; and there is reason to believe that the deposits of rock-salt which occur in Cheshire, England, in Poland, and other places, have been formed at remote periods by depositions in lakes similar to those of the Dead Sea.

DEAD'S PART: in Scotland, the portion of the movable estate of the deceased which remains over, after satisfying the legal claims of his wife and children; so called, because it is with reference to this portion of his possessions alone that he possessed the power of disposal by will or testament. See **MARRIAGE CONTRACT: SUCCESSION, PERSONAL: MOVABLE: KIN, NEXT OF.**

DEAF, a. *děf* or *děf* [founded on the notion of stopping an orifice; *dead* and *deaf* have the same primary origin: Goth. *daubs*; Icel. *daufn*, deaf, dull of hearing]: without the sense of hearing; with imperfect hearing; inattentive; unwilling to hear; that will not be persuaded, as deaf to entreaty or reason. **DEAF'LY**, ad. *-lī*. **DEAF'NESS**, n. lack of the sense of hearing; unwillingness to hear. **DEAFEN**, v. *děf'n*, to make deaf; to stun. **DEAF'ENING**, imp. *-ning*. **DEAFENED**, pp. *děf'nd*.

DEAF-MUTES.

DEAF-MUTES, or DEAF AND DUMB: persons suffering primarily from lack of hearing, thence with inability to speak. Persons who are born deaf, or who lose their hearing at a very early age, are dumb also; hence the compound term deaf-and-dumb. But the primary defect is deafness; dumbness is only the consequence. Children ordinarily hear sounds, and then learn to imitate them; that is, they learn to repeat what they hear other persons say. It is thus that every one of us has learned to speak. But the deaf child hears nothing; cannot therefore imitate, and remains dumb.

Persons who lose their hearing later in life are not to be classed among deaf-mutes. Having learned to speak before their hearing was lost, they can readily communicate with others, though deaf themselves; and if they are educated, there are still open to them all the stores of knowledge contained in books, from which the juvenile deaf and dumb, ignorant of all written and spoken language, are excluded. It is this latter class alone which is contemplated in census enumerations, and for which institutions for the education of the deaf and dumb are specially designed.

The term 'deaf and dumb' is unfortunate, as embodying the error that the primary defect is twofold. The organ of hearing is wanting, but the organs of speech are present; they merely lack the means of exercise. The ear is the guide of the tongue; and when the ear is doomed to perpetual silence, the tongue is included in the ban; though, if we could by any means give to the ear the faculty of hearing, the tongue would soon learn for itself to fulfil its proper office. To correct the error involved in this apparent misnomer, some authorities use the term *deaf-dumb*; and *deaf-mute* is now the customary expression in the United States, as in France it is *sourds-muets*. In the Scriptures, the same original word is translated 'deaf' in some places (as Mark vii. 32), and 'dumb' or 'speechless' in others (see Matt. ix. 33: Luke i. 22).

The number of deaf-mutes was made subject of record first in the Brit. census, 1851.

FROM BRITISH CENSUS, 1851.

	Number of Deaf and Dumb.	Total Population.	Proportion.
England and Wales.....	10,314	17,927,609	1 in 1,738
Scotland	2,155	2,888,742	1 " 1,340
Ireland.....	4,747	6,552,385	1 " 1,380
Islands of the British Seas.....	84	143,126	1 " 1,704
Total.....	17,300	27,511,862	1 in 1,590

FROM BRITISH CENSUS, 1881.

	Number of Deaf and Dumb.	Total Population.	Proportion.
England and Wales.....	13,295	25,974,439	1 in 1,953
Scotland	2,142	3,735,573	1 " 1,744
Ireland.....	3,993	5,174,836	1 " 1,296
Islands of the British Seas.....	88	138,791	1 " 1,577
Total.....	19,518	35,023,639	1 in 1,794

The successive censuses show decided decrease in the proportion of deaf-mutes to total population.

Deaf-mutism is an affection of early life chiefly. After 20 years of age the tables show a steady decline in the proportion to whole population. It is much more common among the natives of the mountainous parts of England and Wales than elsewhere in Britain. About 37 per cent. of deaf-mutes owe their condition, not to congenital deafness, but to such diseases as scarlet fever and the like; and these diseases are more prevalent, as a rule, in the crowded industrial centres than in purely agricultural parts.

But while social science is prosecuting this important inquiry, philanthropy has the work of educating these 'children of silence,' to whom the ordinary means of instruction are inapplicable, and for whom, until a century ago, there were no available means of education. Though the affliction was mentioned at the outset of man's history, by Moses; spoken of frequently in the Old and New Testaments; alluded to by the poets, philosophers, and law-givers of antiquity—there is no account of any attempt at educating the deaf until the 15th c.; no school existed for them until the middle of the 18th; nor could it be said that education was freely offered, and readily accessible, until within the last 50 years.

Some isolated attempts with various success had been made before the 18th c. at long intervals, to give instruction to one or two deaf-mutes. These several cases excited some attention for novelty; but seem to have been soon forgotten. Bede speaks of a dumb youth being taught by one of the early English bishops, known in history as St. John of Beverley, to repeat after him letters and syllables, and then some words and sentences. The fact was regarded as a miracle, and was classed with others alleged to have been wrought by the same hand. From this time, eight centuries elapsed before any record of an instructed deaf-mute occurs. Rodolphus Agricola, born at Gröningen 1442, mentions as within his knowledge that a deaf-mute had been taught to write, and to note down his thoughts. Fifty years afterward, this statement was controverted, and the alleged fact pronounced impossible, on the ground that no instruction could be conveyed to the mind of any one who could not hear words addressed to the ear. But the discovery which was to give the key to this long-concealed mystery was now at hand. In 1501, was born, at Pavia, Jerome Cardan (q. v.), a man of great though ill-regulated talents, who, among the numerous speculations to which his restless mind prompted him, certainly discovered the theoretical principle on which the instruction of the deaf and dumb is founded. He says: 'Writing is associated with speech, and speech with thought; but written characters and ideas may be connected together *without* the intervention of sounds,' and he argues that, on this principle, 'the instruction of the deaf and dumb is difficult, but it is *possible*.'

All this, to us so obvious and familiar, was a novel speculation in the 16th c. With us, it is a common thing for a man to teach himself to *read* a language though he cannot

pronounce it. It was in Spain that this principle was first put into practice by Pedro Poncc, Benedictine monk, born at Valladolid 1520; and a century afterward by another monk of the same order, Juan Paulo Bonet, who also published a work upon the subject, the first step toward making the education of the deaf and dumb permanent, by recording the experience of one teacher for the instruction of others. This book, published 1620, was of service to De l'Epée 150 years later; and it contains, besides much valuable information, a manual alphabet identical in the main with that one-handed alphabet now in common use in the schools on the continent of Europe and in America. When the art died away in Spain, it was taken up by Englishmen, and forthwith assumed an entirely new aspect. Dr. John Bulwer published, 1648, his *Philocophus, or the Deafe and Dumb Man's Friend*; Dr. William Holder published his *Elements of Speech, with an Appendix concerning Persons Deaf and Dumb*, in 1669; and Dr. John Wallis, Savilian Prof. of Mathematics in the Univ. of Oxford, both taught the deaf and dumb with great success, and wrote copiously upon the subject. In 1662, one of the most proficient of his pupils was exhibited before the Royal Soc., and in the presence of the king. The *Philosophical Transactions*, 1670, contain a description of his mode of instruction, which bore fruits long after his death.

Before the close of the 17th c., many works of considerable merit appeared, the chief of which are the *Surduus Loquens* (the Speaking Deaf Man) of John Conrad Amman, physician of Haarlem; and the *Didascalocophus, or Deaf and Dumb Man's Tutor*, of George Dalgarno. This treatise, published 1680, reprinted some years ago by the Maitland Club, is sound and practical. He is the first English writer who gives a manual alphabet. The one described by him, and of which he was the inventor, is, probably, the one from which the present two handed alphabet is derived. Until 1760, nothing more was done in Britain, though the subject was beginning to excite attention in France. In 1760, when the Abbé De l'Epée was opening his little school in Paris, the first school in the British dominions also was established in Edinburgh, by Thomas Braidwood, who began with one pupil. This school, parent and model of the earlier British institutions, was visited and spoken of by many eminent men of that day, and its history and associations are imperishable. Its local name of *Dumbiedykes* suggested to Sir Walter Scott a designation for one of his most popular characters in the *Heart of Midlothian*. A visit to it, 1773, by Dr. Johnson, and his biographer Boswell, supplies one of the most suggestive and characteristic passages in the *Journey to the Western Islands*. In 1783, Mr. Braidwood removed to Hackney, near London; and this step undoubtedly led to the foundation of the London Asylum 1792. Dr. Watson, its first principal, was a nephew, and had been an assistant, of Mr. Braidwood; and he states that, 10 or 15 years previously, the necessity for a public institution had been plainly seen, and a few but insufficient steps taken toward it. From its foundation in 1792 until 1829, it was directed with

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Great ability. Dr. Joseph Watson, in whose work on the *Instruction of the Deaf and Dumb* this statement is given. On his decease, he was succeeded by his son, Thomas James Watson, and he was followed 1857 by his eldest son, the Rev. James H. Watson.

The numbers of deaf-mute children at school in the United Kingdom were as follow:

	1851.	1861.	1871.	1881.
England and Wales.....	816	1,001	1,200	1,782
Scotland	250	240	301	386
Ireland.....	234	399	478	545
Total	1,300	1,640	1,979	2,713

The above numbers include those in the six private schools, and 250 children in eight day schools under the School Board of London.

In England and Wales, there were at the last mentioned date 22 public institutions for the deaf and dumb, and six private ones. The oldest is that of Old Kent Road, London, founded in 1792; the next, that at Edgbaston, Birmingham, 1812. Six new ones were founded between 1871 and 1881. In Scotland, there were seven; one in Edinburgh dating from 1810. In Ireland, there were four, one in Dublin having been founded in 1816. Thus there were 40 schools and 2,713 pupils in 1881. In the United States, there were at the same period 55 schools, with 5,393 pupils; in Germany, 90 schools; in France, 60; in Italy, 55; besides numbers in Austria, Switzerland, Russia, and Spain. There are now in Europe and America more than 300 schools for deaf-mutes. De l'Épée, when he opened his school in 1760, had no foreknowledge of the work he was commencing. As his labors increased, he invited others to his assistance, and they were thus enabled to carry the light of instruction elsewhere, and to keep it alive when he was no more. His death took place 1789, and his assistant, Sicard, succeeded him. Four years afterward, this school was adopted by the French govt., and now exists as the *Institution Nationale* of Paris. A pupil of this institution, Mr. Laurent Clerc, went in 1816 to the United States with the founder and first principal of the American asylum, and he became, like De l'Épée, *le père des sourd-mutes* (the father of the deaf-mutes) in the new world.

There is some diversity of opinion as to the best kind of schools as a means of education for deaf and dumb: a feeling having lately arisen against the boarding-school or hospital system in favor of day schools. For hearing pupils, this feeling is probably just; but it does not follow that the arguments in favor of day schools for hearing children will hold also for deaf-mutes. It must be remembered that the children in entering school learn the manual alphabets and conventional signs (which, with natural signs, pictures, and models, constitute the means of education on the French system), not in classes and from the teachers, but by associating with their school-fellows who have already acquired their use. It is, therefore, absolutely necessary that the children should be brought up together for some time at

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least; as a thorough and intelligent acquaintance with the signs is indispensable to intelligible intercourse with their fellows, or to the acquirement of ordinary written or printed letters or books. (It may be noted that for communication between any one who hears and an educated deaf-mute, the use of signs is needless; ordinary writing materials provide a sufficient channel.) Deaf-mutes require different treatment from other children at every step of their course. To conclude that a deaf child attending a day school about 20 hours a week requires no further instruction is certainly a mistake. Much more continuous supervision by persons thoroughly conversant with their idiosyncrasies is needful; and the parents of deaf and dumb children are not usually qualified instructors. Probably some modified system might advantageously be adopted, so that pupils, after acquiring proficiency in the special language signs, might be boarded out.

So it seems to most qualified people in Britain that a combined method of teaching, not relying wholly, as the German system does, on oral teaching, nor yet confined merely to the manual alphabet and signs of the French system, has advantages over either, taken separately. The oralists have heretofore had an advantage in demanding that for their system the children should be from eight to ten years of age, and taught by trained teachers in classes of from four to eight pupils. The combined system has not had the chance of producing the highest results of which it is capable. Children enter school at various times of the year without any previous knowledge of the language. They receive only five years' instruction, if so long; and that in many instances from inexperienced teachers in too large classes. Yet it seems certain that the combined and French systems are well adapted to meet the minds of all deaf-mutes not idiots. But in every school there are many children who, by reason of deficient intellect and aptitude, are quite unable to profit by pure oral teaching. The clever children may and do; while the semi-deaf and semi-mute would profit more by the oral system, and in separate schools.

The mental condition of the deaf and dumb is so unlike that of any other branch of the human family, that it is extremely difficult to obtain an accurate conception of it. Sometimes the deaf are compared with the blind, though there exists no proper ground of comparison between them. Except that the blind are more *dependent* than the deaf and dumb, the relative disadvantages of the two classes do not admit of a moment's comparison. The blind man can be talked with and read to, and is thus placed in direct intercourse with the world around him: domestic converse, literary pleasures, political excitement, intellectual research, are all within his reach. The person born deaf is excluded from every one of them. The two afflictions are so essentially dissimilar, that they can be considered and spoken of together only by way of contrast. Each of them affects both the physical and the mental constitution; but blindness, which is a grievous bodily affliction, falls but lightly on the mind; while the effect of deafness is the extreme re-

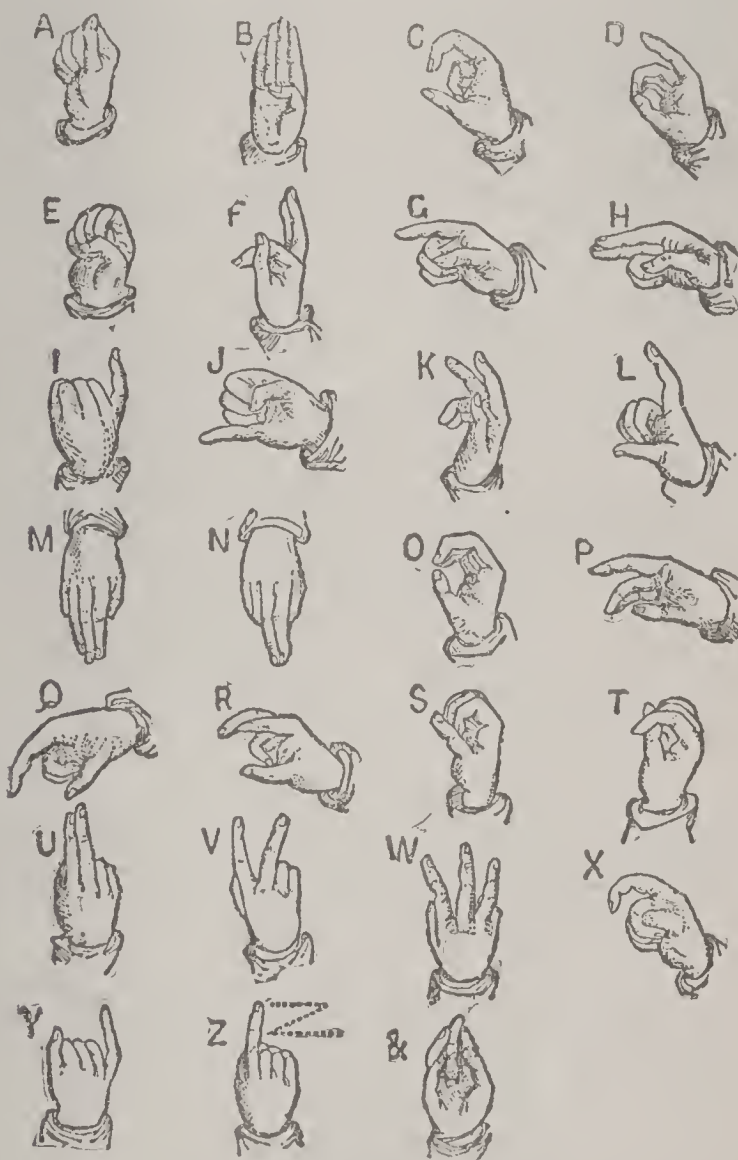
verse of this—it touches only one bodily organ, and that not visibly, but the calamity which befalls the mind is one of the most desperate in ‘the catalogue of human woes.’ The deaf know almost nothing, because they hear nothing. We, who do hear, acquire knowledge through the medium of language—through the sounds that we hear, and the words that we read—every hour. But as regards the deaf and dumb, their original condition is far worse than that of persons who ‘can neither read nor write’ (one of our most common expressions for extreme ignorance); it is that of persons who can neither read, nor write, nor hear, nor speak; who cannot ask for information when they want it, and could not understand it if given. *Your* difficulty is to understand *their* difficulty; and the difficulty which first meets the teacher is how to simplify and dilute his instructions down to their capacity for receiving them.

The means employed in the instruction of the deaf and dumb are—1. The *visible* language of pictures, and of signs and gestures; 2. The fingeralphabet (or Dactylology), and writing, which make them acquainted with *written* language; and, in some cases, 3. Articulation, and reading on the lips, which introduce them to the use of *spoken* language. The use of signs will give deaf-mutes a knowledge of things; but to this must be added a knowledge of words. They are therefore taught, from the first, that words convey the same ideas to our minds which pictures and signs do to theirs; they are required to change signs for words until the written or printed character is as readily understood as the picture or the sign. This, of course, is a long process, as it has to be repeated with every word. Names of visible objects (nouns), of visible qualities (adjectives), and of visible actions (verbs), are gradually taught and readily acquired; but the syntax of language, abstract and metaphorical terms, a copious diction, idiomatic phraseology, the nice distinctions between words called synonymous, and those identical in form but of different signification—these are far more difficult of attainment; they require great perseverance on the part of the pupil, in addition to the utmost ingenuity of the teacher. The wonder, seeing the point of starting, is that this degree of advancement is ever reached at all.

Yet it has been set forth by otherwise respectable authority that the deaf and dumb are a ‘*gifted* race,’ remarkable for ‘their promptitude in defining abstract terms;’ and those who ought to have known better have strengthened this delusion, by putting forth, as the *bonâ-fide* answers of deaf-mutes, those brilliant aphorism and definitions of Massieu and Clerc, so often quoted at public meetings, by eloquent speakers who know nothing of the subject. It is very well known to those who *are* acquainted with the subject that the so-called definitions of *Hope, Gratitude, Time, Eternity*, etc., were not Massieu’s at all, but those of his master, the Abbé Sicard. The influence of these fallacies has been most mischievous; they raise expectation to an unreasonable height, for it is thought that what was done by ‘the celebrated pupil of the Abbé Sicard’ may be done every

day: and disappointment is the inevitable consequence. The honest, laborious teacher who cannot produce these marvellous results, and will not stoop to deception, has often to labor on without appreciation and encouragement; the cause of deaf-mute instruction suffers, and a young institution is sometimes crippled by the failure of support, which was first given from one impulse and is now withdrawn from another—not a whit more unreasonable than the first, but very unfortunate in its consequences.

The course of instruction is much the same in all the public schools of Great Britain, but a vigorous effort is



One-handed Alphabet.

now being made, by the advocates of what is called the 'German system,' to teach by oral instruction only. If they can produce, *on an extensive scale*, the results which have been obtained in some special and exceptional cases, they will assuredly deserve all the success that they hope for, and merit the highest commendation. But it will not be sufficient merely to show that their system is superior to the one in present use, unless they can also show that it can be as extensively applied. The dispensers of the funds

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Our institutions are bound to uphold that system which will confer the largest practical amount of benefit upon the largest possible number of persons. To make a few brilliant scholars, and to produce a number of ready and intelligible speakers, will certainly be a very creditable achievement; but that will not justify any claim to *supercede* the humbler but more useful system under which so many thousands of our deaf-mute fellow-citizens have been rendered competent for the duties of life, in the



Two-handed Alphabet.

workshop, in their families, and in society, and to 'walk in the house of God as friends.'

The manual alphabet in common use in British schools is the two-handed one, though the other is used in some of the Irish institutions, and is regarded with favor by a few English teachers. The arguments in its favor, like those for the decimal currency, may probably be admitted; it would be better if we had it. The adverse argument is that the rival system has possession, and is in familiar use. The institutions in Great Britain are supported by annual subscriptions, donations, and legacies, and by the payments

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or pupils for their board. The larger benefactions are invested, where the annual income from ordinary sources will admit of it. Committees, chosen from the body of subscribers, direct the affairs of these institutions, the executive officers being the head-master and the secretary; but in some cases the sole charge is intrusted to the principal. The gentlemen who fill this office have devoted their whole lives to the work; some of them have also done good service by their writings on the subject. The census report, 1871, specially mentions the works of Messrs. Baker of Doncaster, Scott of Exeter, and Buxton of Liverpool.

In London, a church has been built to meet the same necessity, and religious services are conducted by two chaplains and four laymen, in various parts of the metropolis; Manchester also has a chaplain and lay helpers employed in the same work; in Edinburgh, Glasgow, and Dublin, also in Birmingham, and the large manufacturing towns of Yorkshire, special funds are raised, and special agents employed, to promote in like manner the social and religious benefit of the deaf and dumb. In Liverpool the same results are aimed at by voluntary agency, where, beside the Sunday services, lectures are given during the week, a library and reading-room are open, a penny bank has been brought into successful operation, and a benevolent society visits the sick, helps the needy, and buries the dead.

In the United States attempts to establish schools for the instruction of D.-M. were made in N. Y. and Va. as early as 1811; but though the efforts then failed the publicity given the subject soon led to the inauguration of the American system. Early in 1815, Thomas Hopkins Gallaudet, D.D., became interested in the subject through acquaintance with a little deaf-and-dumb daughter of Dr. Cogswell, a physician of Hartford, and at the invitation of several leading educators in New England he went to Europe that year for the purpose of studying the systems of instruction in operation in London, Paris, and Edinburgh. In the following year he returned, bringing with him Laurent Clerc, a deaf-mute, and pupil of the Abbé Sicard who had continued and greatly improved the work of instruction begun in France by the Abbé del' Épée, 1760. With Clerc he then began delivering public lectures and illustrating the results of the new instruction, and within a few months collected sufficient money to enable him to open a school with seven pupils in Hartford. In 1817 the legislature of Conn. incorporated the asylum, and gave it an appropriation of \$5,000. Within a year the pupils numbered 33, and the popularity of the institution so increased that the congress donated a whole township of land, the proceeds of which in time formed a sustentation fund of nearly \$400,000. The name of the institution was then changed to the American Asylum for the Instruction of the Deaf and Dumb, and it was supposed that the one institution would be sufficient for the instruction of all the D.-M. in the country for some time to come. But the popularity of the scheme rapidly spread to other states, and through private philanthropy

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and state and municipal appropriations similar institutions soon sprang up in various sections. The Rev. Dr. Gallaudet remained in charge of the American Asylum as pres. till 1830, when ill-health forced him to resign. His two sons, the Rev. Dr. Thomas and Edward Miner Gallaudet have been engaged in the instruction of D.-M. since their college days. The former taught in the New York institution 1843-58, and after being ordained priest in the Prot. Episc. Church, founded St. Ann's Church for D.-M. in New York 1852, and became general manager of the Church Mission to D.-M. 1872. Edward Miner Gallaudet taught under his father in the American Asylum, organized the Columbian Institution for the Deaf, Dumb, and Blind in Washington 1857, established the National D.-M. College there and became its pres. 1865, and at the request of the British govt. went to England, and described the American system before the royal commission on the deaf, dumb, and blind 1886.

On the day of opening of the Hartford school, the legislature of N. Y. chartered the New York Institution for the Instruction of the Deaf and Dumb, which went into operation 1818. The Watson system for teaching articulation was employed with unsatisfactory results till 1830, when the management was reorganized and Leon Vaisse of Paris and Harvey P. Peet of the American Asylum were employed to introduce the French system as modified at Hartford. M. Vaisse remained there four years, and Mr. Peet was principal 1831-67 and principal emeritus till his death 1873, Jan. 1. His son, Isaac Lewis Peet, studied the European methods of teaching D.-M. 1851, became vice-principal of the New York Institution 1852, and succeeded his father as principal 1867. A second son, Edward, studied law, became a prof. in the institution, and wrote a number of text-books for D.-M., and a third son, Dudley, became a physician and instructor in the institution.

These gentlemen with Horace Mame, Dr. Samuel G. Howe, Dr. F. A. P. Barnard, Lewis Weld, J. A. Jacobs, and Abraham B. Walton constitute the founders and early promoters of the American system. An improvement has been recently effected by A. Graham Bell, who has introduced into the American Asylum and several of the state institutions the system of teaching articulation by a scheme of phonetic writing founded on the action of the vocal organs in producing sounds. which was invented by his father, A. Melville Bell.

In 1903 there were officially reported 57 state institutions for the deaf, 46 public day schools, and 15 private institutions, with an aggregate attendance of 11,343 pupils. The tables following present the most important facts concerning the institutions for the instruction of deaf-mutes in the United States, 1885-6.

DEAF-MUTES.

NAME.	LOCATION.	Estab-lished.	Teachers.	No. of Pupils.			Vols. in Library.	State aid for the last year.	Expendi- tures for the last year.
				Total.	Male.	Female.			
Alabama Instit. for the Deaf and Dumb and the Blind...	Talladega	1860	8	69	40	29	600	\$10,000	\$10,000
Arkansas Deaf-Mute Institute.....	Little Rock.....	1868	9	89	45	44	10	41,071	45,647
Institution for the Deaf and Dumb and the Blind.....	Berkeley, Cal.....	1860	9	135	84	51	1,200	45,750	45,000
Institution for the Education of the Mute and Blind.....	Colo. Springs, Colo..	1874	8	44	24	20	275	20,000	21,000
American Asylum for the Education of Deaf and Dumb...	Hartford, Conn.....	1817	16	201	119	82	2,000	.....	.....
Whipple's Home School.....	Mystic River, Conn..	1869	4	17	8	9	200	1,610	.....
Florida Blind and Deaf-Mute Institute.....	St. Augustine.....	1885	2	8	7	1	.....	.....	.....
Georgia Institution for the Deaf and Dumb.....	Cave Spring.....	1846	9	155	98	57	1,200	17,000	15,319
Chicago Day-School for Deaf-Mutes.....	Chicago, Ill.....	1875	8	47	24	23	.....	2,500	.....
Voice and Hearing School for the Deaf.....	Englewood, Ill.....	1882	7	30	16	14	.....	.....	.....
Illinois Institution for the Educat'n of the Deaf and Dumb.	Jacksonville.....	1839	32	563	325	238	8,701	98,000	99,210
Indiana Institution for Educating the Deaf and Dumb.....	Indianapolis.....	1844	20	272	207	165	4,000	38,000	53,654
Iowa Institution for the Deaf and Dumb.....	Council Bluffs.....	1855	16	295	175	120	800	65,000	65,000
Kansas Institution for the Educat'n of the Deaf and Dumb.	Olathe	1862	16	239	136	103	200	37,500	37,500
Kentucky Institution for the Deaf-Mutes...	Danville	1823	14	190	109	81	1,600	29,386	32,687
Portland School for the Deaf.....	Portland, Me.....	1876	5	53	29	24	.....	.....	.....
Maryland School for the Colored Blind and Deaf-Mutes...	Baltimore.....	1872	2	18	12	6	25	1,600	6,037
Maryland School for the Deaf and Dumb.....	Fredrick	1867	11	99	50	49	2,368	25,000	25,044
New England Industrial School for Deaf-Mutes.....	Beverly, Mass.....	1879	4	22	12	10	.....	2,000	3,545
Horace Mann School for the Deaf	Boston	1869	8	87	40	47	402	.....	.....
Clarke Institution for Deaf-Mutes.....	Northampton, Mass.	1867	13	.....	.....	.....	1,179	13,971	26,946
Michigan Institution for Educating the Deaf and Dumb...	Flint.....	1854	21	332	195	137	2,605	50,000	50,000
Evangelical-Lutheran Deaf-Mute Institute.....	Norris, Mich.....	1874	3	35	26	9	350	.....	4,650
Minnesota School for the Deaf and Dumb	Faribault.....	1863	14	157	88	69	1,100	35,000	35,000
Mississippi Institution for the Deaf and Dumb.....	Jackson.....	1853	8	90	50	40	500	12,500	12,500
Missouri Institut'n for the Educat'n of the Deaf and Dumb.	Fulton.....	1851	15	240	138	102	1,050	54,300	40,844
St. Joseph's Deaf-Mute Institute.....	Hannibal, Mo.....	1881	1	22	8	14	.....	.....	.....
Convent of Maria Coresilia Deaf-Mute Institute.....	St. Louis.....	1885	2	25	4	21	.....	.....	.....
St. Louis Day-School for Deaf-Mutes.....	St. Louis.....	1878	5	53	30	23	.....	.....	.....

DEAF-MUTES, in Law: anciently in the same position as idiots and the insane: the Roman law held them incapable of consent, consequently unable to enter into a legal obligation or contract. Now, in Britain and the United States, the amount of their capacity is a question of fact, which, in cases of doubt, is referred to a jury. In the same manner, a deaf-mute will be examined as a witness in regard to a fact to which he is capable of bearing testimony, and the examination will be conducted in the manner which seems most likely to elicit the truth. (Best, *Law of Evidence*, p. 201.) The same principle will govern the estimate of his responsibility for crime. (Stephen's *Com.* iv. 461.) It is of course legally, as it is physically, impossible that a mute should act as a juror.

DEAFNESS: lack of the sense of hearing. It may be complete or partial; may affect both ears or only one; may date from birth, be permanent or only temporary; and is often one of the distressing symptoms of advancing age. The causes are numerous. The hearing apparatus is of extraordinary intricacy (see **AUDITORY NERVE**); and though contained in a little nut of densest bone (the petrous portion of the temporal), still it is exposed to many deteriorating influences; and very slight causes may disarrange the exquisite adjustment of its parts. 1. The auditory nerve may itself be unsusceptible to the stimulus of sound, from some diseased condition at its origin in the brain, or at its final subdivision in the labyrinth, this is termed nervous deafness. 2. The structures which conduct the vibrations of sound to the labyrinth may be faulty, from accident or disease. 3. The passage leading to the tympanum or drum may be blocked up. 4. The cavity of the drum may have ceased to be resonant, owing to deposits from inflammatory attacks, or to loss of its membrane, or to exclusion of air by obstructions in the passage between it and the gullet (the Eustachian tube).

Nervous deafness may be caused by a sudden concussion, as from a 'box on the ear,' or a general shock to the whole body, as in the case of Dr. Kitto, who lost his hearing, when a boy, from a fall from the top of a house. The concussion from loud sounds suddenly taking the ear unawares, before its small muscles have time to prepare themselves for the shock, causes the deafness which follows the firing of cannon. Even a loud yell close to the ear has been sufficient to destroy the hearing-power on that side. As such an accident is generally accompanied by an increased flow of blood to the part injured, it may be relieved by the application of leeches, applied behind the auricle, and the ear should for some time be protected from loud sounds as carefully as possible. In some of these cases the nerve gradually recovers its sensibility, but in many the deafness continues, and is accompanied by a distressing ringing in the ears. Exposure to cold affects the auditory nerve; and gouty persons, or those who are suffering from the poisons of typhus fever, scarlatina, measles, mumps, etc., frequently become deaf. Some medicines, as quinine, produce nervous deafness; so do de-

DEAFNESS.

bility and mental excitement, but all these causes seem to act in one way—viz., to increase the flow of blood to the ear—and should be treated accordingly.

The solid conductors of sound to the auditory nerve may be injured or diseased, so that the vibrations are interrupted. One curious cause of deafness was some years ago shown to exist by Joseph Toynbee of London—viz., an increasing stiffness in the little joint by which the stirrup-bone moves in the oval window of the vestibule; this stiffness prevents the base of the stirrup pressing inward sufficiently to affect the contents of the labyrinth, therefore it ceases to keep the auditory nerve *en rapport* with the membrane of the drum. This condition may be recognized by the patient losing the power of adapting his hearing to varying sounds. Two persons speaking at once prevents his hearing the voice of either; but there is a constant buzzing in the ear, and he gets deafer and deafer day by day. This curious disease is frequently associated with gout and rheumatism, and in its earlier stages may be influenced by the same remedies as these; but if once established, it is incurable.

Sound reaches the auditory nerve through the vibrations of the bones of the head, but chiefly through the external opening in the auricle, the passage leading from which is shut at the depth of an inch and a quarter from the surface by the membrane of the drum stretching across it. Should this passage be blocked up, so that the sounds can no longer pass along it to impinge upon the membrane, either total or partial deafness must result.

The most common obstruction is an accumulation of the wax secreted by a small ring of glands near the orifice. The object of this cerumen or wax is to catch the particles of dust floating in the atmosphere; but sometimes it is harder than usual, and is no longer gradually expelled by the movements of the jaw in speaking and eating. At last, it fills the passage in the form of a hard plug, and sounds can neither pass through it nor by its side; if left, it gradually causes serious changes in the shape of the passage, and even symptoms resembling diseases of the brain. Sometimes foreign bodies find their way into this passage, or tumors grow in it, and no unprofessional attempts should be made to remove them, lest the membrane of the drum be injured. It is but seldom that any instruments are necessary in addition to a stream of water thrown briskly in by means of a syringe, with a nozzle smaller than the circumference of the passage. Should the wax be very firm and hard, it is well to soften it by dropping in some oil or an alkaline solution. But even a stream of water, unless great care be taken, may injure or burst the delicate membrana tympani, and the proceeding leave the patient suffering from a more serious condition than before.

A membrane, to be resonant, must have air on both sides of it, and the membrana tympani obtains this essential by means of the Eustachian tube, the lower orifice of which, on each side of the gullet, opens for a brief period

at each act of swallowing, and admits a small quantity of air, which ascends into the tympanic cavity, if the tube is in healthy condition; but frequently in persons suffering from relaxed mucous membrane, the Eustachian passage becomes swollen and impassable, or blocked up by some thickened mucous secretion. During a common cold, persons often suffer from this cause of deafness. It has been supposed by some that enlarged tonsils may interfere with the pharyngeal opening of the tube, and with that view they cut portions off them occasionally with great benefit to the condition of throat in which these glands are enlarged; but the latter are situated below and in front of the Eustachian tubes, and cannot be the immediate causes of the obstruction.

In some cases, the membrane of the drum may be perforated; and though the mere perforation is not sufficient to cause more than a slight degree of deafness, if the mucous membrane lining the tympanic cavity be thickened at the same time, the person is usually able to hear only the loudest sounds. If the perforation be stopped up, however, the air confined in the tympanic cavity vibrates sufficiently to stimulate the auditory nerve, through the round window of the labyrinth, and a useful degree of hearing is restored. In 1848, Mr. Yearsley of London showed that a small pellet of cotton-wool might be used for this purpose. It should be moistened with fine oil, and inserted on the end of a probe. Patients generally learn how to stick it neatly into the aperture themselves. It should be removed every three or four days, or oftener, should cleanliness require it.

Joseph Toynbee has invented an artificial membrana tympani of vulcanized India-rubber, attached to the end of



Artificial Membrana Tympani.

a fine silver wire, by which it can be inserted or withdrawn. These beautiful little instruments may now be obtained of every surgical instrument-maker, and are at least worth trying in cases of perforated membrana tympani, as they often do good, can do no harm, and are very cheap. The India-rubber having been pared to the size likely to fit the individual's ear, it is moistened with warm water, and gently passed down the auditory passage; the sensations of the patient will easily decide when it has gone far enough, and he gladly discovers, by the sound of his own voice or that of the surgeon, that his hearing has been suddenly improved.

The deafness of aged persons has been shown, by Joseph Toynbee, to be generally caused by the effects of previous

inflammatory attacks, and may frequently be much relieved by counter irritation behind the ear, alterative medicines, and washes which restore the healthy condition of the throat and the external auditory passage.

There are numerous 'cures for deafness' advertised from time to time; some are harmless though useless, others are useless but very dangerous, owing to the readiness with which inflammation may be set up, and the liability of the latter to extend to the brain or its membranes. The diseases which affect the ear are the same as affect other organs, and require to be treated upon the same principles. It is advisable, as soon as the first symptoms of approaching deafness are felt, to apply to one of the regularly qualified practitioners who devote themselves entirely to the subject, and to have nothing to do with so-called *cures*, which benefit only the vendors.

The best English works on the subject are *Practical Observations on Aural Surgery*, by William R. Wilde of Dublin, and *The Diseases of the Ear*, by Joseph Toynbee of London.

DEAK, *dá'ák*, FRANZ: Hungarian statesman: 1803-76; b. Kehida, county of Zala. Having studied law at Raab, he began to practice as advocate in his native county, and soon became noted for eloquence and enlightened patriotism. Elected in 1832 to the national diet, he, as leader of the liberal opposition, opposed, by legal and constitutional means, every attempt of the imperial government to infringe on the constitutional rights of his country. This firm and moderate policy enabled him to effect more than one reconciliation between Hungary and the Austrian emperor as her king—temporarily in 1840, and in 1867 more permanently. While upholding the independence of his country, he labored for its internal improvement, promoting measures for the elevation of the peasantry, and advocating the abolition of the odious exemption of the nobility from taxes. His views on this last point displeased the party of the nobles, and for some years after 1840 his county did not return him to the diet. He continued to guide the councils of the moderate liberal party, and in spite of his aversion to extreme measures, he promoted the association for national defense, in the view of a possible struggle with Austria. After the revolution of 1848, March, he became minister of justice in the cabinet of Count Batthyányi (q.v.), and formed the project of effecting a general reform in the administration of justice in Hungary which, however, the war rendered impossible. D. used every effort to come to an arrangement with Austria which should ward off the war. On Kossuth's coming into power (1848, Sep. 17), D. resigned his portfolio, and retained only his place in the diet. In the last months of 1849, at the approach of Prince Windischgrätz, he proposed to sue for peace, and was one of the deputies sent for this purpose to the Austrian general. That step failed, and D. was even for some time a prisoner at Pesth; he then withdrew from public affairs, and retired to his estate. When the Hungarian revolution was suppressed, he refused the invitation sent him by M. de Schmerling, minis-

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ter of justice at Vienna, to take part in the legislative conferences, as he disapproved of the Austrian policy with regard to Hungary. He did not return to public life till 1860, when a constitution was granted to his country.

On hearing of the arrest of Count Ladislas T^él^éki, D. set out for Vienna with M. Eötvös, and procured the release of his countryman, as well as the promise of an independent Hungarian ministry. Returned by the city of Pesth to the diet 1861, he became in it the leader of the moderate party, at the same time that the extreme party collected round Count T^él^éki. The death of the latter (May 8) destroyed the only influence which could counterbalance that of D. ; and the diet appointed him to draw up the address to the emperor. D. demanded, in that paper, the constitution of 1848, a Hungarian ministry resident in Pesth, the return, without restriction, of the exiles, and the restitution of their property. Rejected at first by the emperor, this address was again drawn up with some modifications in the details ; the emperor answered it by a rescript which with difficulty dissimulated his repugnance to such an arrangement ; and in his turn, D. , in name of the diet, protested publicly against the imperial rescript. On May 23, the emperor pronounced the dissolution of the Hungarian diet, which protested anew, under the direction of D. , against the illegality of the measure which dispersed them. Among the events consequent on the war between Austria and Prussia, 1866, was the final triumph of D.'s policy in the establishment of a constitutional relation between Hungary and Austria. At a general election, 1869, the results of which were favorable to his policy, D. was, by an overwhelming majority, returned again for the city of Pesth. He died at the age of 73, and his funeral was a truly national event. A memoir was published, London 1880.

DEAL, n. *dēl* [Goth *dails*; Ger. *theil*; Gael. *dala*; Skr. *dala*, a part, a lot, a portion: comp. Gael. *dail*, trust, credit]: his portion given to each; an indefinite quantity: a portion; a great part: V. to give to each his portion or lot; to distribute, as cards; to divide into portions; to give gradually; to transact business; to traffic; to act; to behave well or ill. DEAL'ING. imp.: N. conduct in relation to others; behavior; intercourse for trade, etc.; trade; business. DEALT, pt. and pp. *dēlt*, distributed; given in succession. DEAL'ER. n. one who. TO DEAL IN, to trade in; to practice. TO DEAL WITH, to trade with; to be a customer to. TO DEAL BY, to treat well or ill. TO DEAL THE CARDS, to give to each player the proper number or share. A GREAT DEAL, very much to the purpose.

DEAL, n. *dēl* [Sw. *tall*; Swiss, *döhle*, pine-tree, a fir. Icel. *talga*, to hew: Ger. *diele*, a board]: a board or plank of wood, generally of the pine or fir. DEALS is, in England, and to some extent in America, the trade-name for fir-boards exceeding 6 ft. in length and 7 inches in width. They are also occasionally called 'planks,' though this term is now somewhat loosely applied. Pieces of smaller width are called

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‘battens ;’ of less length, ‘deal ends.’ Deals are usually 3 inches thick, and when sawed into thinner pieces, these are called ‘boards.’ When a deal is sawed into twelve or more thin planks, they are called ‘leaves.’ There is considerable exportation of deals from N. America to Britain. Sweden and Norway are extensive sources of supply. Drammen is the principal Norwegian timber port, though the general name for the deals from Norway is ‘Christiania deals,’ named from the Norwegian capital, where the principal timber-merchants reside, and through which the business of the trade is chiefly transacted. For the various qualities of deals, and their applications, see **TIMBER**.

DEAL, *dēl* : municipal borough, maritime town and sea-bathing place, in the east of Kent, on a bold open beach, near the s. extremity of the Downs, between N. and S. Foreland, 18 m. e.s.e. of Canterbury, 8 m. n.n.e. of Dover. It has three streets parallel to the beach, and others stretching into the country. A fine anchorage extends 7 or 8 m. between D. and the Goodwin Sands. D. has arisen mainly to supply the wants of vessels which are often detained, 400 or 500 at a time, by the winds in the Downs. The chief branches of industry are connected with maritime pursuits, boat-building, sail-making, piloting or hoveling, victualing and naval stores. D., for parliamentary purposes, is united with Sandwich (q.v.) and Walmer. It has been one of the Cinque Ports since the 13th c. Of the three castles built by Henry VIII. 1539, Deal Castle is now a private residence ; Sandown Castle, n. of D., was pulled down in 1864 on account of the inroads of the sea ; and, to the s., Walmer Castle is now the official residence of the warden of the Cinque Ports. At Walmer Castle, the Duke of Wellington died 1852. Julius Cæsar, with two legions, in 82 ships, landed near D. B.C. 55. Between 150 and 200 vessels annually enter the port. Pop. (1881) 8,422 ; (1891) 8,898.

The **DEAL BOATMEN**, an enterprising and courageous body of men, are, like some of the other boatmen of that coast, locally known as ‘hovellers.’ They have become noted for giving assistance to ships in distress, and for saving lives of crews and passengers. Besides performing these services, they have been useful in carrying off provisions to outward-bound vessels, and in bringing ashore mailbags requiring to be forwarded by express. Latterly, in consequence of steam-tugs being much employed in expediting outward and inward bound vessels, and also because of the landing of mails from many foreign countries at Falmouth and other places, to be forwarded to London by railway, the occupation of the Deal boatmen is nearly gone, and the community has sunk into poverty. Benevolent exertions have been made in their behalf. The community may be expected to diminish in proportion to the actual wants of navigation on the coast.

DEALFISH (*Trachipterus*): genus of fishes of the ribbon-fish family, having the body much compressed, and so named D. from the resemblance of the form to a piece of

DEAL ISLAND—DEAN.

deal—a resemblance which is increased by the dorsal fin extending along the whole length of the back. The tail-fin is peculiar, rising almost vertically from the horizontal line of the vertebral column, as if it had met with some accident, and assumed a new position. One species (*T. Bogmarus*), the VAAGMAER of the Icelanders and Norwegians, sometimes occurs on the most northerly British coasts, but is



Dealfish, or Vaagmaer.

not common even on those of Iceland, and is apparently a deep-sea fish. It is large, 4 to 8 ft. in length, of silvery color, with minute scales. Other species are found in the Mediterranean.

DEAL ISLAND: in Bass's Strait, between Australia and Tasmania: it has a light-house 880 ft. above the sea.

DEAN, n. *dēn* [OF. *deien*; F. *doyen*; Dut. *deken*, the head of a collegiate body—from L. *decānus*, the chief of ten—from *decem*, ten]: the second dignitary of a diocese; an officer in the universities of Oxford and Cambridge (one of the fellows) appointed to see to the discipline of the college, especially as to attendance at chapel and hall; the chief or head of a faculty. At Christ Church, Oxford, which is a cathedral, the dean is master of the college. DEAN'ERY, n. *-ēr ī*, the office or revenue of a dean; the residence of a dean. DEAN'SHIP, n. the office. DEAN AND CHAPTER, the title of the governing body of a cathedral. RURAL DEANS, clergy appointed by the bishop to inspect a certain number of parishes, and preside at the ruridecanal chapters. DEAN OF GUILD, in *Scotch burghs*, pres. of the mercantile body called the Guild-brethren or Guildry; formerly a judge in mercantile and maritime law, within the burgh, but for a long time now rather a kind of Scotch ædile (q.v.), having charge of erection, demolition, or repair of buildings, according to law. DEAN OF FACULTY, in *Scot.*, pres. of the faculty of incorporated advocates or barristers: see ADVOCATES, FACULTY OF. DEAN OF GUILD COURT, in *Edinburgh*, council or court with authority over erecting, demolishing, or materially altering any building.

DEAN, in Ecclesiastical Affairs: second dignitary of a diocese. The institution of deaneries, as of other ecclesiastical offices of dignity, bears a resemblance to the methods of ancient civil government. Thus, for the preservation of civil order, every hundred consisted of 10 districts called tithings, and in every tithing was a constable or civil dean. In conformity to this, the spiritual governors,

the bishops, divided each diocese into deaneries or decanaries [Dat. *decem*, ten], corresponding to tithings, each of which was the district of 10 parishes or churches, over every one of which a D. was appointed, who in the cities or large towns was called the D. of the city or town, and in the country *rural dean*. It has been supposed, but on no certain authority, that the D. of a chapter was appointed to superintend 10 canons; but it is more probable that the name was given to the office from its analogy to those above described. In the English Church, the following dignitaries bear this title:

1. In the province of Canterbury, it is part of the dignity of the abp. to have prelates as his officers, and of these the bp. of London is his provincial D.; and when a convocation is assembled, the abp. sends to him his mandate for summoning the bps. of the province. This is the sole example of the kind.

2. *Honorary Deans*, as the D. of the Chapel Royal of St. James's.

3. *Deans of Peculiars*, as of Battle in Sussex, founded by William the Conqueror in memory of his conquest. There are also the Deans of the Arches in London, of Bocking in Essex, and of Croydon in Surrey, who have jurisdiction, but no cure of souls.

4. *Deans of Chapters*, as at Canterbury, St. Paul's etc., governors over the canons in cathedrals and collegiate churches. Their appointment is in the direct patronage of the crown, which may appoint by letters patent; and the D. so appointed is entitled to be installed. The D. of a chapter must reside eight months in the year, and he may hold one benefice with his deanery. The income of the office is, in the case of Durham, £3,000; of St. Paul's, Westminster, York, and Manchester, £2,000; of other cathedrals, £1,000, except St. Davids and Llandaff, which have £700: see CATEEDRAL.

5. *Rural Deans*. These are very ancient officers of the church, but custom gradually transferred their duties to the archdeacon, as in the visitation of churches, parsonage-houses, etc. They may, however, act as deputies to the bishop and archdeacon; and of late the office has been revived with great advantage; and in well ordered dioceses affords a useful channel of communication between the bishop and his clergy, and a means of joint action in matters affecting the church. There are altogether nearly 600 rural deaneries in England and Wales.

DEAN OF THE CHAPEL ROYAL, in Scotland: office held by six (formerly three) clergymen of the Established (Presb.) Church, to which they are appointed by the crown. The benefice of the Chapel Royal, instituted by James V., was richly endowed, but it has been disputed whether the revenues now enjoyed by the deans belonged originally to the Chapel Royal of Stirling or to the Chapel Royal of Holyrood. The Chapel Royal is noticed as in full operation in Stirling in 1540. During the reign of Queen Mary, the Chapel Royal seems to have been at Holyrood. In 1571,

after the Reformation, the name of Johnne Duncaneson appears as minister of the Chapell Royall, or King's House at Stirling, where James VI., then very young, resided; while at Holyrood the minister was apparently the regular parish minister of Canongate, and not connected with the Chapel Royal. Afterward, when the royal residence became fixed at Holyrood, the Dean of the Chapel Royal officiated in the chapel. The chapel at Stirling was left to decay; whereas during the reigns of James VI., Charles I., Charles II., and James VII., the Chapel Royal of Holyrood was repaired and embellished. The last of the Stuarts laid out considerable sums for the purpose only the year before the revolution. The revenues of the benefice fell to the crown, *jure coronæ*, on the abolition of Episcopacy 1690, and have since been gifted at the royal pleasure: see TEINDS. In 1858, the annual rental divided among the three deans was £2,018. The duties of the office used to be nearly nominal; but on the foundation of the chair of Biblical criticism in the university of Edinburgh 1846, it was endowed with one-third of the revenues, the prof. becoming one of the three deans. The Universities Commission, 1858, recommended that when the requisite vacancies occurred, the revenues should be divided into six parts, attached respectively to the chairs of divinity and Biblical criticism in Edinburgh Univ. (the latter receiving two-sixths of the whole). Biblical criticism in Aberdeen Univ., Biblical criticism in Glasgow Univ., and church history in St. Andrews Univ. This arrangement is now in operation. Besides these five deans, the Dean of the Order of the Thistle bears the title of Dean of the Chapel Royal, but draws none of the revenues.

DEANE, *dēn*, JAMES: 1748, Aug. 20—1823, Sep. 10; b. Groton, Conn.: Indian missionary. He accompanied Rev. Mr. Mosely on his mission to the six nations of Indians in N. Y. 1760, graduated at Dartmouth College 1773, served as missionary to the Canadian Indians 1773-4, engaged in pacifying the northern Indians by order of congress, was appointed maj. in the continental army and stationed at Fort Stanwix as Indian agent and interpreter captured by a savage band, and saved from death by the intercession of some squaws and at the close of the war was given a 2-mile tract of land near Rome, N. Y., by the Oneida Indians. Subsequently he exchanged this land for some in Westmoreland, Oneida co., where he settled, was a judge many years, and held other public offices. The village of Deanesville was named after him.

DEANE, SILAS: 1737, Dec. 24—1789, Aug. 23; b. Groton, Conn.: diplomatist. He graduated at Yale College 1758, engaged in mercantile business, and was a member of the continental congress 1774-76. In the latter year he was sent to France on a secret political and financial mission, and there secured the services of Lafayette and a number of other foreign military officers, and assisted in negotiating treaties of friendship and trade between the United States and France. In 1777 he was charged with extravagance in the management of his business in France

and recalled. Soon afterward he returned to France to procure documents to prove his integrity before congress, but found the govt. hostile to him on account of the reports from home. Discouraged with the inability to vindicate his official conduct, he went to Holland and thence to Deal, England, where he died in poverty and among strangers. Fifty three years after his death congress re-examined his accounts, found that the govt. was in his debt to a large sum, and appropriated the amount to his heirs.

DEAN FOREST: picturesque hilly tract, 22,000 acres, in the west of Gloucestershire, between the Severn and the Wye. It is mostly crown-property, and about half is inclosed for the growth of timber for the navy. It contains oak, beech, etc., woods; orchards, yielding the famous Styre apple-cider; coal and iron mines; and stone-quarries for building, grinding, and making troughs and rollers. It is divided into six walks. The population is chiefly miners, formerly a lawless set. The former inhabitants had many ancient privileges—acquired by birth, and by working a year and a day in the Forest—viz., exemption from rates and taxes, free pasturage, right of mining—a sixth of the produce being due to the sovereign—and access to the woods for timber for their works. D. F. is governed by a lord-warden, six deputy-wardens, and other officials.

DEAR, a. *dēr* [AS. *deor*, dear: Gael. *daor*, bound, precious, dear in price: Dut. *duur*; Sw. *dyr*; Icel. *dyrr*, dear, precious]: high-priced; more costly than usual, as arising from scarcity; highly esteemed; beloved; precious: N. a darling; a word of endearment or affection. DEAR'LY, ad. -lī. DEAR'NESS, n. the state or condition of being dear or high priced. DEAR-BOUGHT, purchased at too high a price. DEAR'Y, n. -ī, a familiar term for a dear. DEARLING, n. *dēr'ling*, in OE., a darling. OH, DEAR ME [said to be a corruption of L. *oh, Deus mi*, oh, my God]: an exclamation of surprise or displeasure.

DEAR, a. *dēr* [Gael. *dur*, hard, unbending: OE. *dere*, dire, sad: Scot. *dour*, hard, cruel: F. *dur*, hard]: in OE., hard; dire; stern; unyielding. DEAREST FOE, most hateful or most unyielding foe. DEARBORN, n. *dēr'bawrn* [from the name of the inventor]: a light four-wheeled family carriage of moderate pretensions.

DEARBORN, *dēr'born*, HENRY: 1751, Feb. 23—1829, June 6; b. North Hampton, N. H.; military officer. He studied medicine and practiced till the battle of Lexington, when he hurriedly enlisted a company of minute men and marched with them to Cambridge. Appointed a capt. in Stark's regt. he covered the retreat of the Americans at Bunker Hill; then went with Gen. Arnold to Canada, took part in the attack on Quebec and was made prisoner 1775, Dec. 31.; paroled 1776, May, he was exchanged 1777, Mar., appointed maj. in Scammell's regt., and took a conspicuous part in the battles of Saratoga and Monmouth, beside minor engagements. In 1781 he became col. and deputy quartermaster gen. on Washington's staff, served through the Yorktown campaign, and at the close of the

DEARN—DEATH.

war settled in Monmouth, Me. He was commissioned brig. gen. of militia 1787 and maj. gen. 1795; was U. S. marshal for Me. 1789; member of congress as a democrat 1793-97; sec. of war 1801-9; collector of the port of Boston 1809-1812, Jan. 27, when he was appointed senior maj. gen.. U. S. A.; captured Toronto 1813, Apr. 27, and Fort George May 27; and was U. S. minister to Portugal 1822, May 7-1824, June 30. Fort Dearborn, the first building erected on the site of Chicago (1804), was named in honor of Gen. D., then sec. of war.

DEARN, or DERN, a. *dèrn* [Gael. *deur*, a tear; *deurach*, tearful, melancholy, sad: AS. *dyrnian*, to hide, to secrete; *dearn*, secret]: in *OE.*, secret; sad; lonely; melancholy. DEARN'LY, ad. *-li*, secretly; sadly: see DERN.

DEARTH, n. *dèrth* [from *dear*, as *length* from *long*]: scarcity; want; famine; barrenness or want of.

DEATH, n. *dèth* [Goth. *dauthus*; Icel. *dauthi*, death: Low Ger. *dode*, a dead body: Icel. *deya*, to die]: a total and permanent cessation of all the vital functions; cause of death; state of the dead; decease; mortality; alienation or separation of the soul from God; state of being under the dominion of sin. DEATH'LESS, a. immortal. DEATH-LIKE, resembling death; very still. DEATH-BED, the bed on which a person dies; the closing hours of life on a bed. DEATH-BLOW, a disappointment or misfortune so great as to prove injurious, and even fatal, to the bodily frame and mind. DEATH'S DOOR, a near approach to death. DEATH-RATTLE, a rattle in the throat of a dying person. DEATHSMAN, in *OE.*, the hangman; the public executioner. DEATH-STROKE, the stroke of death. DEATH-TOKEN, that which is supposed to indicate approaching death. DEATH-WARRANT, an order signed by the sovereign for the execution of a criminal.—SYN. of 'death': departure; demise; extinction; murder.

DEATH: decease; dissolution of the vital bond. It is one of the fundamental doctrines of physiology that every part of the organism has its own definite term of vitality, and that there is a continuous succession of the destruction of old cells and the formation of new ones in all tissues, and especially in those in which the most active vital changes are going on, as, for example, in the nervous and muscular tissues. Even the most solid portions of the animal frame, such as the bones and (to a less extent) the teeth, are undergoing a perpetual although slower change of this nature; and throughout the body there is a continuous removal of effete or worn-out tissues, and a corresponding deposition of new matter. Every blow we strike, every thought we think, is accompanied by the death and disintegration of a certain amount of muscular or nervous tissue as its necessary condition; and thus every action of our corporeal life, from its beginning to its close, takes place at the expense of the vitality of a certain amount of organized structure. This is termed *molecular D.*, and, within its proper limits, is obviously essential to the life and well-being of the organism.

The cessation of the circulation and respiration may be

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regarded as constituting *somatic D.*, or the D. of the entire organism, which must obviously be shortly followed by the molecular D. of every portion of the body.

We shall now briefly notice the principal modes in which D. occurs. D. happens either from the natural decay of the organism, as in old age, or (and much more frequently) from some of those derangements or lesions of the vital organs which occur in the course of diseases and injuries. These derangements of the vital organs may occasion various modes of dying. Dr. Watson remarks, in his *Lectures on the Principles and Practice of Physic*, that life rests on a tripod, whose three vital supports are the *heart*, the *brain*, and the *lungs*. Through the impaired functions of one or more of these organs, the tendency to D. is expressed. This is much the same as Bichat's statement that 'the mode of dying may begin at the head, the heart, or the lungs.' The functions of these organs are, however, so mutually dependent upon each other that impairment in the functions of one of them may lead to D., while the mode of dying is expressed chiefly through the functions of another.

When a person loses blood to such an extent that he faints, if the flow of blood be not arrested the state of fainting or *syncope* continues, and the heart's action ceases. The cause of D. here is, not that the heart is unable to contract, but because its natural stimulus, the blood, does not enter it in sufficient quantity to excite contraction. This is termed D. by *anæmia*. In other cases, the stimulus from blood may be sufficient, but the heart may have lost its contractile power. Such a mode of death is said to be by *asthenia* [Gr. want of power]. Many poisons and diseases, due to morbid materials in the blood (as, for example, cholera), prove fatal in this way.

D. may be produced likewise by suspension of the functions of respiration, as when access of the air to the lungs is impeded, or when the actions of the muscles of respiration cease, in consequence of disease or injury of the brain or spinal cord. The first of these modes is known as suffocation or *apnœa*, and we have examples of it in drowning, smothering, choking, strangulation, etc. Forcible pressure upon the chest, such as sometimes happens in great crowds, or as occurs to workmen partially buried by the fall of earth, etc., will cause D. in a few minutes, if movement of the lungs is prevented by the pressure. Tetanus and the poison of strychnine prove fatal in this way.

D. by coma, or beginning at the brain, is caused by obstruction to the circulation through that organ by pressure (as, for example, when there is effused blood within the cranium, or when a portion of bone is depressed in a fractured skull); by clots of blood within the vessels; by various narcotic poisons, such as opium, alcohol in excessive quantity, carbonic acid, etc.

To these forms of dying may be added (according to Dr. C. J. B. Williams) *necræmia*, or D. beginning in the blood, such as occurs in typhoid fevers and in other diseases malignant or pestilential. In this case, there is complete and general prostration of all the living powers. The blood, the

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natural source of life to the whole body, is itself dead, and spreads death instead of life. Almost simultaneously, the heart loses its power; the vessels, and especially the capillaries, lose their tone, and congestion takes place in various organs, the medulla oblongata, from which the chief respiratory nerves arise, is torpid; the powers of respiration fail; voluntary motion is almost suspended; molecular nutrition ceases, and is very rapidly followed by general molecular D.; that is to say, structures and even organs die, and begin to undergo decomposition as soon as the pulse and breath have ceased; and indeed, a partial change of this kind may even precede somatic D., as, for example, when parts become gangrenous, etc.

As to the signs of approaching D.; the mind may be affected in various ways; there may be dulness of the senses, vacancy of the intellect, and extinction of the sentiments, as in natural D. from old age; or there may be a peculiar delirium, closely resembling dreaming, usually pleasing and cheerful:

Saw ye not even now a blessed troop
Invite me to a banquet, whose bright faces
Cast thousand beams upon me like the sun ?

King Henry VIII., Act iv. Scene 2.

In dreadful contrast with such visions are those which haunt the dying moments of other, when it sometimes almost seems that retribution of evil deeds began even on the bed of death.

Dementia or imbecility sometimes comes on shortly before D., and manifests itself by an incapacity of concentrating the ideas upon any one subject, and by almost total failure of memory. The mental weakness is often indicated by the pleasure derived from puerile amusements. Shakespeare notices 'playing with flowers' as a token of approaching dissolution. In the form of delirium, ocular spectra often seem present, the patient apparently trying to catch some imaginary object.

There is generally well-marked relaxation and incapacity of the muscular system, and the voice is usually weak and low as D. approaches, often dwindling to a mere whisper. The mode in which the action of the heart declines is various; in most diseases of long standing, the cessation of the heart's action is gradual, the rate of the pulsations being much increased, but their energy much impaired. In some acute affections, the failure is shown by the irregularity of the pulse, while the force is little altered. In other cases (especially in cerebral diseases), the heart, before finally ceasing to beat, contracts violently, and suddenly stops.

The respiration is sometimes hurried and panting till just before D., while in other cases it is slow, laborious, and stertorous. The accumulation of mucus, etc., in the air-passages increases the difficulty of breathing; the sound known as the 'death-rattle' being produced by the passage of the air from the lungs through the fluid collected in the trachea and upper respiratory passages.

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There is a loss of animal heat, beginning at the extremities. See, further, DEATH, in *The Cyclopædia of Anatomy and Physiology*, from which some of the matter preceding is taken.

The *signs of actual D.* may be arranged under three heads: 1. Signs of the extinction of the vital functions; 2. Changes in the tissues; 3. Changes in the external appearance of the body.

1. The arrest of the circulation and respiration would at first sight appear to afford decisive evidence of D.; but these functions, as in the case of hibernating animals, may be reduced to so low a condition that it is by no means easy to decide whether or not they are completely annihilated. In cases of apparent drowning, these functions are frequently suspended and again restored; and cases like that of Col. Townsend (see any standard work on medical jurisprudence) occasionally occur, in which the patient has the power of voluntarily suspending these functions for a considerable period.

The loss of irritability in the muscular fibres (a fact readily ascertained by a galvanic current) is a sign of far greater importance than either the apparent stoppage of the circulation or of the respiration. The contractility of the skin is also lost after death. When a cut is made through the skin of a dead body, the edges of the wound collapse, while a similar lesion inflicted during life presents an open or gaping appearance.

2. Among the changes in the tissues, the *rigor mortis*, or rigidity of the muscles, which ensues at a varying period after D., is the most important. It may appear within half an hour after D., or may be delayed 20 or 30 hours, according to the nature of the disease; and its mean duration is 24 to 36 hours. It commences in the neck and trunk, then appears in the lower, and lastly in the upper, extremities, and disappears in the same order.

3. Various changes in the external appearance of the body have been regarded as indicative of D. by different writers; of these, the most important unquestionably is the altered color of the surface. Livid spots of various sizes may occur from local congestions during life; but the appearance of a green tint on the skin of the abdomen, accompanied by a separation of the epidermis, is a certain sign that life is extinct.

The discrimination of true from apparent D. is obviously not a matter of mere physiological interest. The case of Vesalius, the eminent anatomist, who opened a supposed and apparently dead body in which the exposed heart was seen still beating, is well known; as also that of the Abbé Prevost, who, having been struck down by apoplexy, was regarded as dead, but recovered consciousness under the scalpel, and died immediately afterward; and a French author of the last century, Bruhier, in a work *On the Danger of Premature Interment*, collected 54 cases of persons buried alive, 4 of persons dissected while still living, 53 of persons who recovered without assistance after they were laid in their coffins, and 72 falsely considered dead.

DEATH—DEATH'S HEAD MOTH.

DEATH, PUNISHMENT OF: see CAPITAL PUNISHMENT.

DEATH-BED. LAW OF, in Scotland: presumption, formerly maintained in law, that any man who, while suffering from the disease of which he ultimately died, burdened or conveyed away his heritable estate, to the prejudice of his lawful heir, must have so acted in consequence of his inability to resist importunity in the state of feebleness to which he was reduced; for which reason his heir was entitled to reduce the deed. This rule belonged to the most ancient consuetudinary law of Scotland. It has been abolished by laws of recent date.

DEATHS, REGISTRATION OF: see REGISTRATION.

DEATH'S HEAD MOTH (*Acherontia atropos*): species of HAWK-MOTH (q.v.), or lepidopterous insect of the family *Sphingidae*, widely distributed over the world, being found in Europe, Africa, the Mauritius, and the E. Indies. It measures almost five inches from tip to tip of the extended wings; is of dark color, the body yellow with black markings, the thorax with pale markings which have some resemblance to a skull, and from which it derives its name; the upper wings mottled with brown, black, and yellow. The caterpillar is greenish-yellow, the back speckled with black, with transverse lines partly blue and partly white;



Death's Head Moth and Caterpillar.

and in countries where the potato is cultivated is often found feeding on the leaves of that plant. This insect is most frequently seen flying about in autumn, and only in the mornings and evenings. It is remarkable for emitting a plaintive squeaking sound, which, with its dark color, and the skull-like mark on the thorax, has led to its being regarded with superstitious dislike, the sudden appearance of large numbers being popularly held ominous of evil; while, in the Mauritius, a notion prevails that it casts a dust from its wings which produces blindness in persons on whom it falls, and its entering an

DEATH-WATCH—DEAVE.

apartment is therefore regarded with dread. How the noise which it emits is produced is not known. If the insect is taken and confined in the hand, this sound is sent forth sharply and strongly. The D. H. M. is interesting on still another account, as one of those insects which enter and plunder bee-hives, feeding upon the honey; and though apparently quite defenseless, it ravages with perfect impunity the stores of creatures so well provided with formidable weapons, and generally so ready to use them against an intruder. No explanation of this fact is known.

DEATH'-WATCH: ticking sound produced by certain insects, inmates of human dwellings; also the insect producing it. The sound, easily heard in that stillness which attends sickness and anxiety, has become associated with superstitious notions, being regarded as indicative of an approaching death. The most common form of this prevalent superstition is the belief that when the D. is heard some member of the household will die within a year. The tickings of the D. were formerly attributed to species of wood-louse and of spider, and it is probable that they are not all produced by insects of the same kind; but the most common D. of Britain is a species of Borer (q.v.) (*Anobium tessellatum*). It is of dusky or grayish-brown color, about a quarter of an inch in length. It is generally in summer that its noise is heard, the number of raps given in quick succession, varying from several to more than a hundred. These are repeated at uncertain intervals. The noise exactly resembles that made by beating with the nail upon a table; and when this is done, the insect is frequently in-



Death-watch, magnified:

A, *Anobium tessellatum*; B, *Anobium pertinax*; C, *Anobium striatum*.

duced to reply to it. It is the perfect insect, not the larva, which produces this sound. It seems, indeed, to be a call by which the sexes are attracted to each other, and is produced by the insects beating upon some hard substance with its head, in doing which, it raises itself upon its hind-legs, and with the body somewhat inclined, beats its head with great force and agility against the substance on which it stands. One of them was seen by Mr. Stackhouse thus to beat upon a sedge-bottomed chair with such force that its strokes made little indentations in the outer coat of the sedge.

DEAVE, v. *dēv* [Scot.: Norw. *dyvja*, to buzz, to sound hollow (see **DEAF**)]: to stupefy with noise. **DEAV'ING**, imp. **DE'AVED**, pp. *dēvd*.

DEBACLE—DEBATE.

DEBACLE, n. *dě-băk'l* [F., breaking of a frozen river] in *geol.*, any sudden flood or rush of water which breaks down opposing barriers, and hurls forward and disperses blocks of stone and other debris.

DEBAR, v. *dě-bâr'* [*de*, from, and *bar*]: to cut off; to exclude; to hinder from approach, enjoyment, etc. **DEBAR'RING**, imp. **DEBARRED'**, pp. *-bârd'*.—**SYN.** of 'debar': to deprive; hinder; prohibit; disqualify; exclude; preclude; forbid; refuse.

DEBARK, v. *dě-bârk'* [F. *débarquer*, to land—from *dès*, from, and *barque*, a boat or vessel]: to disembark; to land from a ship or boat. **DEBARK'ING**, imp. **DEBARKED'**, pp. *-bârkt'*. **DEBARKATION**, n. *dě'bâr-kă'shŭn*, the act of landing from a ship.

DEBASE, v. *dě-bās'* [*de*, down, and *base*, low, which see]: to reduce from a higher to a lower state; to reduce or lower in quality, purity, or value; to adulterate; to degrade; **DEBA'SING**, imp. **DEBASED'**, pp. *-bāsă'*. **DEBA'SER**, n. *-sēr*, one who. **DEBASE'MENT**, n. the act of debasing; the state of being debased. **DEBA'SINGLY**, ad. *-lŭ*.—**SYN.** of 'debase': to abase; humble, disgrace; humiliate; dishonor; lower.

DEBA'TABLE LAND: tract on the w. border of England and Scotland, chiefly level and moory, now in course of improvement. This tract of country, between the Esk and Sark, was so named because at one time claimed by both kingdoms. In 1542, it was divided by royal commissioners, appointed by the two crowns, who separated it by a line drawn from e. to w. between the two rivers. The upper half was adjudged to Scotland, and the more eastern part to England. Yet it continued long afterward the residence of the thieves and banditti to whom its dubious state had afforded a refuge. The Graemes, a troublesome clan of freebooters who inhabited the D. L., were transported to Ireland at the beginning of the 17th c., and prohibited from returning on pain of death. See **BORDER**.

DEBATE, n. *dě-băt'* [F. *débat*, strife; *débattre*, to contend, to fight a thing out—from *de*, *battre*, to beat]: contention in words; discussion between two or more persons avowedly for the discovery of truth: **V.** to contend for in words or arguments; to dispute; to deliberate. **DEBA'TING**, imp. **DEBA'TED**, pp. **DEBA'TER**, n. one who. **DEBA'TABLE**, a. *-băt'ă-bl*, subject to dispute; that can be controverted. **DEBA'TINGLY**, ad. *-lŭ*. **DEBATING SOCIETY**, an association, generally of young men, for discussing general and special subjects, to improve themselves in extemporaneous speaking. **DEBATE'MENT**, n. in *OE.*, controversy; formal consideration.—**SYN.** of 'debate, v.': to argue; dispute; discuss; contend; contest; struggle.

DEBATE': discussion, or contention in words, differing from conversation in this, that the speakers succeed one another according to certain regulations, and that the subject is treated formally, and in general with a view to coming to some practical conclusion. The term has a general

meaning, but is specially applied to the discussions of political representative bodies. Parliamentary and congressional debates are sometimes decried as useless, and even mischievous. How, it is said, can a couple of speeches, *pro* and *con*, produce a rational conviction on any subject? It is more likely that the judgment will be run away with by specious oratory. But this proceeds upon a false conception of the great object of public D., which, though it may seldom influence the votes on the actual question, serves to justify the proceedings of public men to their constituents, and by its varied presentation of a case, forms one of the chief elements of public opinion and of the political life of a community.

DEBAUCH, n. *dě-bawch'* [F. *débauche*, a cessation of work, idleness, debauch; *débaucher*; OF. *desbaucher*, to mar, to corrupt—from *dēs*, from; *bauche*, a row or course of bricks in a building: Icel. *balkr*, a heap, a beam: comp. Gael. *baois*, lewdness]: excess in eating or drinking; intemperance; lewdness: V. to corrupt; to vitiate. DEBAUCH'ING, imp. DEBAUCHED', pp. *-bawcht'*: ADJ. dissipated and sensual in appearance; corrupted; vitiated. DEBAUCH'EDLY, ad. *-lī*. DEBAUCH'EDNESS, n. DEBAUCH'ER, n. *-ér*, one who debauches or corrupts others. DEBAUCHERY, n. *-ér-ī*, gluttony; excess; sensuality. DEBAUCHEE, n. *děb'ō-shē'*, a man given to intemperance or lewdness. DEBAUCH'MENT, n. the act of debauching or corrupting; the act of seducing.

DE BAY, MICHAEL: see BAJUS.

DEBEL, v. *dě-běl'* [OF. *débeller*, to conquer—from L. *debellārē*—from *de*, down; *bellum*, war]: in *OE.*, to conquer; to expel by war. DEBEL'LING, imp. DEBELLED', pp. *-bēld'*.

DE BENE ESSE, *dē bē'nē ěs'sē* [L.]: at or for its present value; for what it is worth.

DEBENTURE, n. *dě-běn'tūr* [L. *debentur*, there are owing—from *debēō*, I owe; OF. *debentur*, a quittance or receipt]: written or printed acknowledgment of a debt or borrowed money, on which a certain amount of interest is agreed to be paid yearly or half yearly, as a *railway debenture*: also a governmental certificate of drawback on goods exported, given according to law, promising to repay at a time specified, a certain sum to an importer, provided the duties chargeable in the case shall have been discharged before the time specified. DEBEN'TURED, a. *-tūrd*, pertaining to goods on which a certificate of drawback has been granted.—A Railway Debenture is a deed of mortgage given by a railway company for borrowed money; see CAPITAL ACCOUNT: RAILWAYS, (Legislation and Management). The deed by which the loan is effected is simple in appearance and nature. All expenses connected with it, brokerage included, are borne by the company. It mortgages, in consideration of a specified sum of money paid to the company, the company's estate, right, title, and interest to the lender, and engages to pay a specified interest on the sum till the

DEBILE—DEBORAH.

repayment of the principal. But it stipulates that by mutual agreement, at that specified time, the loan may remain on interest at such rate and for such longer time as may be agreed on. It is signed by the proper officials of the company, with witnesses. With it are given warrants or coupons for the payment of interest at the periods specified, which are paid on presentation.

Brief, simple and effective, a railway D., with its accompanying interest-warrants, is perhaps the most convenient deed of mortgage ever invented. In few and unequivocal words, it pledges the whole railway for the loan, and it must necessarily be redeemed before any shareholder can claim a dividend from the undertaking—each D. being numbered in its order, and ranking according to its number. Railway debentures are, therefore, reckoned a safe form of investment, and are eagerly taken up by individuals who have sums of a few hundred, or thousand dollars to lend for several years at a stipulated rate of interest. These debentures possess the further advantage of being saleable, and through the agency of stockbrokers they pass from hand to hand. In the event of neither interest nor principal being paid, the holder is entitled to enforce the mortgage. Similar debentures are issued by various public trusts under statutory authority, and by joint-stock companies, in virtue of contracts pledging the credit of the undertaking: see BOND (of Corporations).

DEBILE, a. *děb'íl* [L. *debilis*, weak]: in *OE.*, weak feeble.

DEBILITATE, v. *dě-bíl'í-tāt* [L. *debilitātus*, lamed weakened: F. *débilitér*, to enfeeble—from L. *debilis*, weak] to enfeeble; to weaken; to impair the strength of. DEBILITATING, imp. DEBIL'ITATED, pp.: ADJ. weakened. DEBIL'ITA'TION, n. *-tā'shūn* [F.—L.]: a weakening relaxr; tion. DEBIL'ITY, n. *-tī* [F. *débilitéé*]: weakness; languoa-feebleness.—SYN. of 'debility': faintness; infirmity; imbecility; enervation.

DEBIT, n. *děb'it* [F. *débit*, a debt—from L. *debitum*, that which is owing, a debt—from *debēō*, I owe: It. *debito*]: an entry on the debtor (Dr.) side of an account: V. to charge with debt; to enter on the debtor (Dr.) side of an account. DEB'ITING, imp. DEB'ITED, pp.

DÉBLAI, n. *dě-blā'* [F., act of taking away or clearing]: in *fortification*, any hollow space or excavation in the ground made during the construction of fortifications or siege-works. The cavity itself is the D., while the earth taken from it, also sometimes called the D., is properly termed the *remblai*.

DEBONAIR, a. *děb'ō-nār'* [OF. *debonere* and *debonaire*, affable: It. *bonario*, upright, honest: F. *débonnaire*, courteous, affable—from *de bon air*, of good air or mien]: good-humored; gentle; complaisant; elegant; well-bred. DEB'-ONAIR'NESS, n. good-humor; gentleness. DEB'ONAIR'LY, ad. *-lī*, elegantly.

DEBORAH, *děb'o-ra* [Heb., a bee]: Hebrew prophetess,

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wife of Lapidoth, in the time of the Judges. She dwelt in Mount Ephraim, and uttered her judicial oracles from her tent under the palm-tree between Bethel and Ramah. To deliver her land from the oppressive yoke of the Canaanites, under which it had groaned for 20 years, D. called to her aid Barak, son of Abinoam, probably a man of heroic temper. An army was raised among the tribes of Naphtali and Zebulon, and a battle took place in the plain of Esdraëlon, where the Canaanitish host was completely routed, and Sisera during his flight, as D. had predicted, was murdered by a woman. This victory secured to the Israelites a peace of 40 years. The 'Song of Deborah' (as it is generally called, though its composition is not ascribed to her in the Book of Judges) is a choice fragment of primitive Hebrew poetry.

DEBOUCH, *v. dā-bōsh'* [F. *déboucher*, to open, to escape—from *de* for L. *dis*, out, away, and *bouche*, mouth—from L. *bucca*, the cheek]: to march out of a narrow place, a wood, or a defile, as troops. DEBOUCHING, *imp.* DEBOUCHED', *pp. bōsh't'*. DEBOUCHMENT, *n. dā-bōsh'mēnt*, the marching out of troops from a narrow defile, etc. DEBOUCHURE, *n. dā-bō-shōr'*, the opening or mouth of a river or strait.

DE BOW, *de bō*, JAMES DUNWOODY BROWNSON: 1820, July 10—1867, Feb. 27; b. Charleston: statistician. He graduated at Charleston College 1843, and was admitted to the bar and became editor of the *Southern Quarterly Review* 1844. In the following year he founded *D. B.'s Commercial Review* in New Orleans; 1848 was appointed prof. of political economy and commercial statistics in the Univ. of La.; 1850-53 had charge of the census bureau of La.; 1853-56 was supt. of the U. S. census; and after the civil war conducted his *Review* first in New York, then in Nashville. He was one of the founders of the La. Hist. Soc.; contributed a number of articles on American topics to the *Encyclopædia Britannica* (8th ed.); was a member of the successive southern commercial conventions from 1845, and pres. of that at Knoxville 1857; and was author of *Encyclopædia of the Trade and Commerce of the United States*, 2 vols. (1853), *The Industrial Resources and Statistics of the Southwest*, 3 vols. (1853), *Statistical View of the United States*, based on the census of 1850 (1854), and *The Southern States: Their Agriculture, Commerce, etc.* (1856). He was also a popular lecturer on social and economic subjects.

DEBRECZIN, *dī-brēt'sin*: large straggling town of e. Hungary, in an extensive plain, about 120 m. e. of Pesth. Like many Hungarian towns, D. is a mere collection of villages, united on no particular plan. The houses mostly are mean structures, not more than one story in height, and the streets unpaved, and exceedingly dirty; in certain seasons of the year, planks are laid down to enable passengers to cross. Notwithstanding its generally squalid character, however, D. has some very handsome public buildings, including a town-hall, a Protestant college, with a staff of 24 professors and 2,000 students, and several churches,

DEBRIS—DEBRY.

monasteries, and charitable institutions. A bronze statue to the popular poet, Csokonai, was erected 1871, and there is also a monument, consisting of a dying lion on a pedestal of rock, to the Honvéds, who fell at the battle of D. 1849. The inhabitants, who are very industrious, are dependent chiefly on agriculture, but a number are engaged in the manufacture of coarse woollens, sheep-skins, leather, earthenware, soap, saltpetre, and tobacco-pipes, which are famous throughout Hungary. The cattle and swine markets of D. are among the most extensive in Europe; its grain market is also large. D. was prominent in the revolution of 1849, and was for some months in that year the seat of the national diet, after it had been forced to remove from Pesth. Its inhabitants, with the exception of 2,000, are Protestants. They have suffered much on account of their faith, especially in 1567 and 1686. Pop. (1900) 75,006.

DEBRIS, n. *dā-brē'* [F. *débris*, rubbish—from *de*, and *bris*, wreck]: rubbish; ruins; fragments of rock, etc.



Debruised.

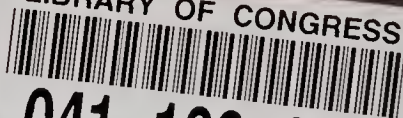
DEBRUISED, *dē-bréd'*: term peculiar to English heraldry, used to indicate the grievous restraint of an animal, and its being debarred of its natural freedom by having any of the ordinaries laid over it (*Dictionary of Display*).

DEBRY, *dēh-bré'*, **JEAN ANTOINE JOSEPH**: 1760-1834; b. Vervins, France; statesman. He was educated for the law, but entered public life as a moderate republican 1790, and was sent to the assembly the following year. In 1793 he was appointed a member of the committee of public safety, and 1796 of the Council of Five Hundred; 1798 was sent as minister plenipotentiary to Rastadt; and 1799 narrowly escaped assassination by Austrian troops on returning from his mission. He was appointed prefect of Doubs 1801 and held the office till 1814. In the leisure of his public duties he practiced his profession with signal ability.

DEBS, *dēbz*, **EUGENE V.**: labor agitator: 1855.—
——; b. Terre Haute, Ind. He attended public schools, and then took employment as a railroad fireman. At the age of 26 he was a member of the legislature. He was grand sec. and treas. of Locomotive Firemen for 14 years. Through his influence the United Order of Railway Employees was organized, and he led in establishing the American Railway Union, in Chicago (1893), which won a strike against the Great Northern railway. In 1894, the workmen of the Pullman Palace-car Co. struck for higher wages and were supported by the Am. Railway Union, under D.'s leadership, and a boycott of all Pullman cars was ordered, ending in the memorable general railroad strike. To protect the mail and commercial services Pres. Cleveland ordered federal troops to the scenes of disturbance, and D. and his confederates were indicted for conspiracy, but the jury disagreed. Later they were sent to jail for six mos., by order of the U. S. circuit court sustained by the supreme court.

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